

**A STRATEGY TO PROMOTE
HAZARDOUS WASTE MANAGEMENT**

Prepared for
Environment Canada and
the Nova Scotia Department of Environment

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THE PROJECT

In 1983 a successful seminar on hazardous wastes in Nova Scotia for municipal councillors was organized by the Community Planning Association of Canada for Environment Canada. The Department wished to explore ways of following up with further public information and education work, and commissioned Griffiths Muecke to develop strategy options for promoting hazardous waste management.

The project was completed over a period of six months and involved three phases:

- Phase 1 - The Nova Scotia context was established by reviewing the existing problems, the elements of hazardous waste management already in place, and the level of public involvement that has already taken place.
- Phase 2 - Interviews were conducted with 60 people around the province with some involvement or interest in hazardous waste management.
- Phase 3 - Information from other areas on public involvement in hazardous waste management was reviewed. This was put together with information and ideas gathered in Phases 1 and 2, and options for a public information and education program were developed.

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SUMMARY

- The hazardous waste problem operates on several levels: scientific and technological, economic, political and social. The endemic public concern indicates that not all of the aspects are yet resolved.
- A hazardous waste management strategy must focus first on reducing the quantities of waste produced through recycling, reuse, recovery and other methods, and then on safe treatment and disposal.
- The strategy must be comprehensive in scope, from control of production, transportation, recycling, treatment and disposal - "cradle to grave". Public participation is a major element in the strategy.
- In Nova Scotia hazardous wastes management is in its infancy although some promising initiatives are being taken. More knowledge about the nature of the problem is required as well as the development of standards for treatment and disposal, more emphasis on waste reduction and a greater commitment to public consultation.
- In the U.S. the hazardous waste problem is growing to immense proportions. Specific federal legislation has been passed and a "Superfund" created to finance clean-up of old sites, but siting treatment and disposal facilities has proved to be very difficult. In Canada Alberta and Ontario have employed two different approaches from which important lessons can be learnt.
- People interviewed during the course of the project represented a range of interest groups including various levels of government, industry, waste handlers, labour, environmental and advisory groups, media and consultants. Most had little specific information about hazardous wastes, but were very concerned about the problem. Specific issues included easy access to information, identification and labelling of hazardous materials, input by health personnel, the co-ordination of emergency response, contact and consultation with government departments, and the reporting of environmental stories in the media.
- The development of a management strategy should be co-ordinated with a planned public consultation program. The goal would be to provide basic education in the principles of hazardous waste management to enable the public to participate effectively. The public should be consulted during management strategy development, and when site-specific facilities are proposed.

- The public is divided into different interest groups, categorized according to the type and level of their involvement. Contact would be phased accordingly. The main groups identified are generators, handlers and disposers, municipal and other governments, media, advisory groups, environmental groups, consulting engineers, public interest groups, educational institutions, and the general public.
- Elements of the proposed public information and education program include a telephone information service, conferences on recycling and consensus building, a series of initial consultation meetings, a basic handbook, industrial information bulletins, media contacts and a schools program.

CONCLUSIONS

The following conclusions have been drawn from the literature review and interviews:

Public Response to the Problem

- Hazardous waste management has emerged as a sensitive public issue during the past ten years or so. It is part of a much larger concern about the effect of environmental contaminants on public health and safety. The development of a management strategy must therefore address political and social questions as well as economic and technical ones.
- Repeated experiences in Canada and the United States indicate that people will become involved in hazardous waste issues when they perceive that their personal or community interests may be affected. This intervention is likely to occur whether it is sought or not.
- The so-called Not-in-my-backyard (NIMBY) syndrome is often characterized as a misinformed emotional reaction. However, it is often much more rational than this since its basis is the distrust generated by inadequate information, poor government (or industry) credibility, and closed or unclear decision-making processes.
- The anxiety surrounding hazardous waste disposal issues stems in part from the way they are handled by the media. Coverage is often sensational and little attention is paid to follow-up. Reliance on the media for information may therefore ensure that the problems caused by incomplete information are perpetuated.
- There is reason to believe that a hazardous waste management strategy that focusses strongly on the four R's (reduction, reuse, recycling and recovery) would have greater public acceptance than one that concentrates on disposal. Using this approach a range of options can be developed and discussed.
- Within Nova Scotia, while little specific information is available, there is considerable interest in the subject of hazardous waste management. There is also considerable potential support for a more active management program, particularly at the municipal level. This municipal interest relates to the problems of landfill sites, to existing or potential water supply contamination, and to the

desire to know which hazardous materials are present in the community. Interest was expressed in integrating hazardous waste management into the local emergency measures organization, as far as possible.

- The need for a greater focus on public health and safety concerns was expressed by provincial labour representatives and public health officials. These include the right to know which hazardous materials are present in the workplace, the improvement of emergency response procedures and increased consultation with public health officials.
- Members of the public who are actively interested in environmental issues in Nova Scotia share with government the objective of reducing the uncontrolled release of hazardous chemicals into the environment. They differ on the means by which this might be accomplished. At present there is widespread discouragement amongst environmental groups at the lack of real opportunities for consultation and participation in environmental management.

Developing a Public Consultation Program

- Assuming that putting in place a hazardous waste management program would have two parts: a) planning and development and b) implementation, public consultation with specific objectives should be an integral part of each.
- Consultation should involve exchange of information, a review of management options and discussion of issues of concern to each party.
- Experience elsewhere has shown that major decisions on hazardous waste management (particularly concerning siting) made without public input may well be strongly opposed. A clearly laid out step by step process would therefore need to be established early and made public so that consultation and decision points are known in advance.
- The task of changing public awareness takes a long time and the public consultation program should be designed with this in mind.

Approaching the Public

- It is important that the main parties involved in the development of a hazardous waste management strategy (government, industry and the public) share the same base of information at the outset. Therefore the first step is to provide different interest groups with basic information on hazardous wastes and management options.
- Different publics should be categorized according to the type and level of their interest in hazardous waste management, and information and consultation tailored to their particular needs. Categories could be as follows:

generators

handlers and disposers

planners, managers, designers and regulators of waste management

media

advisory groups

environmental and conservation groups

educational institutions

public interest groups

general public

As far as possible, contact with publics within each category should be through umbrella organizations and associations in order to keep the numbers manageable.

- If individuals are to invest time and energy in becoming involved they need to be assured that there is a firm commitment by government to carry through the management strategy. It also should be made clear what is wanted from them and why.
- When both the provincial and federal department of environment are involved, activities should be carefully co-ordinated so that the same message is presented.

Focus of the Consultation Program

- The initial focus of a consultation program should be at the municipal level, labour, the media and waste generators; then more specialized environmental groups; followed by more general public interest groups; and finally the general public.
- A public consultation program should be designed in successive phases based on the results of previous phases. Evaluation should be an integrated part of the program.

1. THE PROBLEM

While hazardous wastes have been generated as a by-product of economic activity for decades, it is only in the last fifteen or twenty years that people have started to grapple with it as a problem. This can be attributed to the rapid increase in the use of new chemicals since the second world war; the development - if perhaps still fledgling - of an environmental ethic which recognizes the interdependence of natural and social systems; and a growing awareness of the pathways substances travel to affect both human and environmental health.

The hazardous wastes problem operates on several levels simultaneously. It is a scientific and technological problem, in that knowledge about both the hazards of many materials and about certain aspects of treatment and disposal is still imperfect. Solid advances have been made, and certainly enough is known about the safe treatment of most of the common hazardous wastes to embark on the design of a management strategy. Nevertheless, uncertainty still exists and must be taken into account.

The problem is also economic in that a shift in the allocation of costs and benefits is required. The costs of improper waste disposal have been borne by society at large in the form of environmental degradation or health hazards. The costs of responsible waste treatment and disposal should be included in the costs of production both as a matter of justice and also to provide the necessary economic incentives to substitute, reduce, reuse and recycle hazardous substances. Yet, in practical terms, it may be decided that some subsidization of treatment facilities may lead more quickly to a safer environment. In addition, the clean-up of abandoned hazardous wastes sites is an expensive proposition, the dimensions of which are not yet apparent.

The problem is political in that decisions must be made about the allocation of responsibilities, costs and risks. Past experience suggests strongly that any hazardous waste management strategy is only as good as the regulatory and enforcement system which it embodies. Decisive action will therefore be required by governments in an area which has the potential for at least short term political unpopularity. A second aspect is that in developing a strategy governments will need to confront the mistakes and negligence of the past - an uncomfortable process at the best of times.

Finally, the problem is a social one because decisions about how we deal with our wastes have widespread significance for all sectors of society, requiring, in the long term, changes in the patterns of consumption and waste disposal. Value decisions on the level and allocation of risk, mitigation and compensation, will be required. An informed, concerned and active public can also play a role, both formal and informal, in enforcement and monitoring procedures.

Hazardous wastes have received considerable publicity in recent years. The hazards of improper disposal are particularly alarming because they include life-threatening diseases with long latency periods and potential reproductive damage. People tend to become involved in reaction to site-specific disposal practices or proposals, and have been able to exercise considerable political clout. This reaction, labelled by some as the Not-In-My-Backyard or NIMBY syndrome, is often identified as the major problem in managing hazardous wastes safely. While it certainly is a factor to be reckoned with, and contributes to political reluctance to tackle hazardous waste problems, it should instead be viewed as indicative that problems and uncertainties remain at all levels - technological, economic, political and social.

In Nova Scotia a Federal-Provincial inventory [1] completed in 1980 concluded that approximately 18 percent of the industries in the province (over 200) were potential generators of hazardous wastes. These produce an estimated total of 52,000 tonnes of hazardous wastes annually. Of this, 81 percent is in the form of liquid wastes, 10 percent solid waste and 9 percent sludge. Of the waste materials actually inventoried (28 percent of the total number of potential generators) 62 percent were deemed to be disposed using unacceptable methods.

Ironically, whereas in many areas the sheer volume and geographic concentration of hazardous wastes causes problems, in Nova Scotia the smaller volumes and dispersed nature of the industry present other difficulties, in that private waste treatment and disposal industries may not consider provincial centralised facilities an attractive economic proposition. This introduces the prospect of government subsidization, the need for regional co-operation, or the possibility of importing wastes from other areas.

2. FRAMEWORK FOR A HAZARDOUS WASTE MANAGEMENT STRATEGY

2.1 STRATEGY GOALS

The general goal of a hazardous waste management strategy is to minimize environmental degradation and conserve resources. To do this the strategy aims to reduce by various means the quantities of hazardous waste which will ultimately require treatment and disposal. There is general agreement on the hierarchy of desired waste management options:

- Waste reduction
- Reuse
- Recycling
- Recovery
- Treatment or incineration
- Ultimate disposal

Estimates of the amount of wastes that could be handled by the four R's (reduction, reuse, recycling and recovery) range from 40 to 80 percent.

2.2 ELEMENTS OF A HAZARDOUS WASTE MANAGEMENT STRATEGY

Waste generation and disposal are pervasive activities with implications for all sectors of society. A hazardous waste management strategy is of necessity a complex undertaking. Yet a complete strategy - one which addresses environmental, economic and social imperatives - is ultimately more justifiable to the people it affects than the current ad hoc approach.

The following are the main elements of a hazardous waste management strategy.

Definition. A definition of hazardous wastes is required at the outset. Two approaches are: to develop criteria to be used to classify wastes such as flammability, corrosiveness, reactivity, acute and chronic toxicity, mutagenicity; or to evaluate and list individual wastes. The criteria approach has the potential to be comprehensive, while the list approach is less equivocal in pinning down precise materials. Many jurisdictions use a combination of the two.

Knowledge. Knowledge is required at two levels. For planning and operational purposes it is important to know the types and quantities of wastes that are currently being generated, the levels of waste that may be generated in the future, and the location and character of

hazardous wastes improperly managed in the past. This information is gathered through baseline inventories, extrapolation studies, systematic record-keeping and abandoned site surveys. It is symptomatic of the low levels of concern currently associated with industrial wastes, that many managers do not keep track of the quantities and types of waste-streams which they produce.

The second level at which knowledge is required is that of public and worker safety, which is characterized by "right to know" demands. Local governments and workers claim the right to know what dangerous substances, including hazardous wastes, are present in the community or workplace. Making the information available may mean that certain aspects of industrial confidentiality may have to be challenged.

Control of Production at Source. The option exists to ban at source the production of certain substances which would ultimately become hazardous wastes. This potential control requires enabling legislation, a system of registering new chemicals and a process to determine their acceptability. There is considerable debate as to where the burden of proof lies - whether a chemical is to be considered "innocent" until proven otherwise, or if all chemicals are suspect until proven to be safe.

Standards for the Treatment, Storage and Disposal of Hazardous Wastes. While the four R's rank higher than treatment, storage and disposal as management options it is important that, early in the development of the strategy, standards for the proper treatment, storage and disposal be established and incorporated in legislation. This is essential to cut off the option of cheap disposal using inadequate methods, in order to create more incentive to adopt the four 'R's'. Legislated standards will also create more demand for proper centralised treatment, storage and disposal facilities, if these are part of the hazardous waste management plan, thus improving their economic viability.

Reduction, Reuse, Recycling, Recovery. To put the four 'R's' into practice requires technical knowledge, the identification of opportunities, financial incentives either through potential savings or subsidization programs, environmental standards, and probably an element of compulsion. In California certain hazardous wastes are specified as suitable for recycling. The onus is then on the generator to explain their reasons if they opt to treat and dispose instead. Another method would be to charge premium disposal fees for wastes which can be recycled.

Control of Hazardous Waste Transportation. Legislation controlling hazardous waste transportation not only promotes the safe movement of wastes but also provides information on the generation, location and ultimate disposal of wastes which may not be accessible in other ways, especially if the strategy does not include mandatory waste stream record-keeping by generators.

Control can include some form of manifest system, licensing of transporters, labelling and placarding for waste containers and vehicles, provisions for notification and response in the event of an emergency, and provisions for liability and compensation if damage to people or the environment occurs. An important element is co-operation between jurisdictions and compatibility of requirements. This refers not only to inter-provincial and international liaison but also to local governments who will have to provide emergency response.

Export. The export of wastes to another jurisdiction for storage or treatment is closely connected with the control of transportation, and with interjurisdictional co-operation. In addition it may be necessary to provide information about external waste management options, and to establish bulking facilities or transfer stations, or to co-ordinate collection.

Treatment, Storage and Disposal Facilities. To a great extent hazardous waste management is identified in the public eye with this element, although, as people become involved they often develop interest in the other management options. A management strategy will be concerned with calculating need for centralized facilities, after other options have been taken into account, and suggesting alternative configurations of small and large, centralized and distributed facilities, where feasible. The strategy must then address site selection, the approval process, operations and closure. As well as standards for treatment, storage and disposal, there must also be criteria for site selection including environmental impact assessment, and for operations, including personnel, training, procedures, and record-keeping. The strategy will need to consider the role of local government, if any, in the approval process and afterwards. Public participation is particularly important in this area. It is important, too, that the strategy include controls over on-site treatment and disposal as well as offsite facilities, especially where the emphasis is placed on at-source treatment to avoid transportation risks.

Long Term Care. As long as a management strategy includes the concept of secure landfill disposal (California is planning to move towards a situation in which more recycling, better treatment and incineration will obviate the need for landfills) provisions must be made for long term care. These include the appropriate maintenance of the site after closure, requiring liability insurance coverage and perhaps performance guarantees, and identifying potential future land uses. Given the practical difficulties of recovering damages from a body which may no longer be in existence, some form of trust fund or "superfund" will be necessary.

Abandoned Sites. Abandoned sites must be surveyed and assessed, and criteria established to guide decisions about clean-up or maintenance. The clean-up of improper waste disposal after the fact is a costly

proposition and funding mechanisms must be developed, including possibly contributions by industry or additional waste disposal fees.

Inter-provincial and International Co-operation. Already mentioned under other headings this is important in its own right. Co-operation is required to encourage uniform standards in order to avoid creating hazardous waste "havens" and to facilitate interjurisdictional movements of wastes where necessary. Where quantities of wastes are small, or highly specialized facilities are required, regional co-operation can reduce costs and improve the range of management options.

Public Participation. Although left to last in this description, public participation plays an important role throughout the strategy, and belongs early in the process of its formulation. This area encompasses education to ensure that the public is aware of the dimensions of the problem, and can evaluate alternative solutions and contribute ideas; input into overall policy planning; input into the setting of standards and criteria; consideration of community issues in siting decisions; environmental mediation; and community compensation. The public has important local knowledge to include in the environmental impact assessment process.

People also have a role to play in improving the management of household hazardous waste, and can help to enforce laws against illegal dumping through observation and reporting. It has been shown in the past that people will become involved in facility siting questions by one means or another. The challenge is to encourage them to support a hazardous waste management strategy through the provision of information, opportunities for consultation, and resources.

3. HAZARDOUS WASTE MANAGEMENT IN NOVA SCOTIA - THE CURRENT SITUATION

Jurisdiction

While some commentators [1] have argued that the federal government should take a more active legislative role in hazardous waste management, and has in fact the mandate to do so, the current position is that with a few exceptions jurisdiction over hazardous wastes is deemed to be basically provincial. Environment Canada essentially plays an advisory rather than regulatory role. The only major piece of federal legislation, The Transportation of Dangerous Goods Act, comes under the wing of the Department of Transportation, although Environment Canada is involved in its administration. Other federal legislation with some application to hazardous waste management include The Environmental Contaminants Act, The Ocean Dumping Control Act, The Fisheries Act, The Pest Control Product Act, and The Hazardous Products Act. In Nova Scotia the only legislation containing specific hazardous waste management provisions is An Act Respecting the Transportation of Dangerous Goods. The two major pieces of environmental legislation are The Environmental Protection Act and The Water Act. Both give the Minister of Environment widely-ranging powers, but have not been backed up by a fully developed regulatory system.

Definition

The Province of Nova Scotia has been participating in the Federal-Provincial-Territorial Committee on Hazardous Wastes. A technical sub-committee has been developing standard definitions for hazardous waste, using both the criteria and list approach. These definitions have now been presented to the parent committee. Nova Scotia has so far indicated satisfaction with the process but has not yet adopted the definitions in legislative form. Also no definition of hazardous waste has been incorporated into The Transportation of Dangerous Goods Act. Since other provinces have been developing and using their own definitions, it is uncertain whether the goal of a consistent set of definitions being in use across the country will be achieved.

Knowledge

At present the main source of information about the types and amounts of hazardous wastes generated in Nova Scotia is The 1980 Maritime Hazardous Waste Inventory Report. A sample of the potential hazardous waste generating industries in the three Maritime provinces was surveyed, and the results extrapolated to produce total figures by grouping the region's industries by Standard Industrial Classification categories. The survey was carried out by the Environmental Protection Service, with the co-operation of the Province. The results are still under discussion.

On an on-going basis the only source of information on waste quantities available to the Province comes through its industrial permit system under The Environmental Protection Act. To obtain a permit an industry must provide information about the wastes it proposes to discharge. As it is presently formulated, this mechanism is of limited use in assessing hazardous waste production because a) no formal review process is built into the industrial permit system, b) wastes which the industry does not propose to "discharge" (in other words, wastes which might be stored or exported) are not included, and c) since the proclamation of the Environmental Protection Act in 1973 only about one in four of the industries in Nova Scotia which should fall within the provisions of section 23 [2] have in fact been required to apply for a permit [3].

Information on certain industrial sectors is available through specific reports [4] - namely, waste oils, surface finishing, industrial gases and the chlor-alkali industry.

On a regional basis within Nova Scotia two recent initiatives involving municipal governments will be adding more detailed information. In Cumberland County the District Planning Commission is planning to conduct an inventory of local industrial wastes in order to rationalize management decisions at the municipal landfill site. In the Halifax Dartmouth Metropolitan Area the Metropolitan Authority is developing an inventory of industrial wastes produced in the area in order to establish a hazardous waste management strategy. Nova Scotia has joined the Federal Government in Phase 1 of The Abandoned Site Survey which will provide basic information on the location of abandoned hazardous waste dumps. However, recent federal cutbacks mean that further work on the nature and extent of these problems will not be federally funded.

In terms of information relating to public and worker safety, there is currently little available. Occupational health and safety legislation needs to be overhauled (it is currently under review) and workers do not have the right to know what substances they are handling, or the right to refuse dangerous work. A number of municipalities have expressed concerns about materials used or transported within their boundaries, but the extent to which they could enforce any form of "right-to-know" by-law is untested.

Control of Production at Source

This is entirely a federal concern at present. The production of certain chemicals, including PCBs, is banned under The Environmental Contaminants Act. Manufacturers producing new chemicals in quantities exceeding 500 kg. are required to register them. They are not, however, required to prove that they meet any particular standards relating to environmental or

human health or safety. The federal government classifies the product according to its general qualities and then tests those products which appear to hold the most potential for harmful impacts. This is clearly an inadequate catch-up process, however, when one considers that approximately 1000 new chemicals are registered every year.

Standards for Treatment, Storage and Disposal

There are practically no standards or criteria for the treatment, storage or disposal of hazardous wastes in Nova Scotia. In assessing industrial permit applications the N.S. Department of Environment refers to various guidelines or standards from other jurisdictions, or to draft regulations prepared for the Environmental Protection Act. But there are no legislated standards.

At the federal level, consistent with the advisory stance taken in hazardous waste management, Environment Canada is in the process of developing technical manuals for landfill design and operation, incineration, PCB treatment and storage, and physical-chemical treatment facilities. A Code of Good Practice [5] for federal institutions has also been developed to guide the management of federal hazardous wastes. In regulations under The Fisheries Act standards for the treatment of effluents from certain industries are included.

There have been suggestions that the Federal-Provincial-Territorial Committee on hazardous waste should build on its work on defining hazardous waste, by developing standards for the treatment, storage and disposal of each of the categories of waste streams which it identified. There is, however, no indication that this will be undertaken. If it were to be tackled the end-product would again, presumably, be guidelines rather than national regulations.

At the municipal level the main responsibility and control centres around operating practices at the municipal landfill site, or the acceptance of industrial effluents into the municipal sewage system. Municipalities which have accepted provincial assistance in establishing a solid waste landfill site will have operating guidelines which refer to industrial wastes, but usually in general terms.

Reduction, Reuse, Recycling, Recovery

While the four R's are frequently cited as a major component of the ideal waste management strategy they have not yet received the level of interest and effort due to them.

While, in time, assigning true costs of disposal to waste generators will enhance the value of conserving and recycling raw materials, there also needs to be an aggressive effort to identify opportunities and promote initiatives, similar to the successful energy conservation programs.

In the Maritime Hazardous Wastes Inventory the waste management scenario which featured the widest range of management options and therefore minimised the quantities of waste requiring treatment at a centralised facility, anticipated that approximately 20 percent of the total wastes in the three provinces could be managed through recovery, or reuse. Of this 20 percent the greatest amount would be waste oils and solvents. Less than 1 percent would be recovered or reused through waste exchange programs.

The recovery or reuse of waste oils, which are either bulked and sent for re-refining or burnt as fuel, is now an established practice in the region. The opportunity to recycle solvents remains untapped. Waste exchange is still in its infancy. The Canadian Waste Materials Exchange provides an information network service at a very low cost, but participation by industry in Nova Scotia is very low. In 1980 the Inventory estimated that there had been only eight exchanges in the previous two years. A somewhat informal system co-ordinated by EPS exists in the Halifax-Dartmouth area. The Metro Area Waste Exchange handles mostly institutional laboratory wastes. The Federal government has also instituted a fine paper recycling program and a silver recovery program for its own establishments. Federal incentive programs for private industry also exist, such as DRECT (Demonstration of Resource and Energy Technology) through Environment Canada, research and development contracts through the Department of Supply and Services and IRAP (Industrial Research Assistance Program) through NRC.

Control of Hazardous Waste Transportation

At present there are no controls on the movement of hazardous wastes in Nova Scotia - a matter of concern which has received attention at the municipal level recently. Waste carriers are not required to obtain an industrial permit or any special licensing. Draft regulations for the Transportation of Dangerous Goods Act are being prepared. These will cover the classification of goods and packing; standards for containers, packaging and transport; responsibility to report accidents; a national waste manifest system; safety markings and safety requirements. The intention of the manifest system is to provide a cradle-to-grave tracking system for wastes which will apply to all movements, intra-provincial, inter-provincial and international.

The idea is that the provinces will administer the manifest system by passing mirror legislation. Some provinces already operate their own manifest system which will presumably need to be made compatible in some way with the national system.

Nova Scotia has already passed mirror legislation [6], and, once the federal regulations are adopted, will incorporate them. The Act will be administered by the Department of Transportation with the exception of the hazardous waste manifest system which will be the responsibility of the N.S. Department of Environment.

Municipal interest in the transportation of hazardous materials usually centres around emergency measures planning, and several municipalities, including Dartmouth and Bedford, have stated their intention of getting a better handle on what is carried by the rail lines through their municipality.

Export

Exporting wastes from Nova Scotia to other parts of Canada or the United States is an expensive proposition because of long distances and low volumes. Four major waste disposal firms regularly export wastes to central and western Canada. Two of these specialize in PCB wastes and make a total of approximately six trips a year. The other two firms probably make about 20 trips a year between them, each load consisting of approximately 25-30 barrels of waste.

Treatment, Storage and Disposal Facilities

The waste management options currently available in Nova Scotia include landfilling at municipal sites, at-source treatment, storage, export, or discharge to sewer systems. As previously mentioned the Inventory estimated that approximately 60 percent of the region's hazardous wastes were being managed in an unacceptable manner. Clearly, current options are inadequate or misused. There are no commercial treatment or storage facilities in the province. The only incineration capacity is provided by a couple of industries for certain waste oils. Centralized storage for PCBs is provided for DND wastes at CFB Debart. Plans were also being developed for a federal provincial-pesticide storage and exchange facility in Kentville for agricultural users, but progress on this has slowed considerably. Municipal landfills do take some industrial wastes, guided by their own discretion, their operating manuals where these exist, and sometimes by advice from the N.S. Department of Environment.

Abandoned Sites

As already mentioned, Nova Scotia has joined with the federal government in pursuing Phase 1 of the Abandoned Site Survey Program. Unfortunately funds for future phases have now been cut by the federal government. There is as yet no indication of whether the provincial government will be developing a strategy to deal with abandoned sites. Of the 172 sites surveyed, 10 were considered to have strong potential to cause human or environmental problems.

Interprovincial and International Co-operation

Nova Scotia participates in national committees on hazardous waste, but there have been few interprovincial initiatives.

Public Participation

As in many other places, the public has indeed participated in the discussion of hazardous wastes management, but in ways that were unintended and not necessarily enlightening to either the public, industry or government. This occurred in Cumberland County, when some background studies on site feasibility for a Maritime regional treatment facility were taken to mean that Cumberland County had been selected. The resulting uproar quickly brought to a halt that particular federal-provincial hazardous waste management initiative, and ensured that subsequently the subject would be treated with extreme political caution.

Many concerns were voiced at the time about the types and sources of the wastes, the proposed technology, and transportation hazards. As there was in fact no proposal for a facility prepared and therefore little information, criticisms were of necessity highly speculative. But the public was also responding to the accurate perception that there were no assurance that local communities would have any role in the formulation or implementation of a hazardous waste management strategy - or indeed that any proposed facility would in fact be part of a broader strategy of planning, research and regulation. The lesson learned from Cumberland County is underscored by countless examples of a similar breakdown in public confidence in other provinces and in the United States.

Public participation in environmental issues is not an established practice in Nova Scotia. The granting of industrial permits is an entirely private procedure with no mandatory provisions for public notification or hearings. Only the applicant may appeal a decision. There are no environmental impact assessment requirements for any projects under provincial legislation but in practice the industrial permit application review process may call for impact assessment studies. The Environmental Control Council may hold hearings but only at the discretion of the Minister. Municipal development controls under the Planning Act may involve public hearings or appeals, but the forms will chiefly be on land use issues. Nor has information about hazardous wastes been made readily accessible.

The Maritime Hazardous Wastes Inventory is a public document, but was never published. A leaflet for the householder is in preparation, addressing individual responsibility for the safe handling of domestic wastes, but it does not address the broader waste management policy decisions which will need to be made.

As things now stand it would theoretically be possible for the provincial government to permit the establishment of a waste disposal facility with no environmental assessment or public input of any kind. In Cumberland County the Planning Advisory Committee attempted to include a specific zone in a draft municipal plan to control industrial waste facilities specifically so the municipality would then be assured of some control over the siting process. The plan was subsequently rejected for other reasons. Nevertheless, as long as people see no protection of their interests through a planned consultation and participation process, it is probable that suspicion and opposition will be guaranteed.

4. HAZARDOUS WASTE MANAGEMENT AS A PUBLIC PROCESS

4.1 INTRODUCTION

Most of the accessible literature on hazardous waste management comes from the United States, although in recent years a great deal of information has been generated in the provinces of Alberta and Ontario as the provincial governments have embarked on management programs.

Although the subject raises many questions about proven versus unproven technologies, design and performance standards, the adequacy and enforceability of regulations etc., most of the controversy has centred on the difficulty of finding and developing sites for disposal facilities. The process is almost always stalled or halted altogether by public opposition and this is often cited as the single greatest hindrance to the development of better hazardous waste disposal practices.

This public response is generally characterized as the NIMBY (Not-In-My-Back-Yard) syndrome - an emotional refusal to participate or accept responsibility in the overall problem of waste disposal. However, after-the-fact analysis by participants and observers suggest that its origins go deeper than automatic nay-saying. It stems from fundamental problems of distrust, poor access to information, questions of who is included and excluded from the decision-making process, who accepts responsibility and who accepts risk. Questions of this nature frequently underlie planning decisions, however when the topic is hazardous waste management, they become highly focussed and divisive.

The remainder of this section contains a more detailed analysis of the public response. It looks at the emergence of hazardous waste as a public issue; its presentation in the media; and the basis of the public response as perceived by 'front line' participants, analysts and reviewers.

The information was drawn from a number of sources: conference proceedings, review papers, citizen's handbooks and journal articles. Most of it has been published in the past few years and reflects an emerging view that the basis of public opposition needs to be understood if hazardous waste management is to proceed through democratic processes.

4.2 BACKGROUND

In a number of preliminary studies conducted by the United States Environmental Protection Agency (USEPA) during the 1970's, it was concluded that each of 1200 to 1500 waste disposal sites in the United States could represent a health hazard. It was also estimated that of the 90 billion pounds of waste disposed of annually, only about six percent was dealt with in an environmentally sound manner. At that time the volume of waste was growing at five to ten percent per year [1]. In 1981, 1000 sites were selected for further examination. Sixty percent of these were confirmed to be causing contamination and a remaining 30 percent remained suspect [2].

Following initial disclosure of the extent of the problem posed by chemical dumps, the United States government began to take legal and political steps to ensure that better waste management would be adopted. The main product of this has been the Resource Conservation and Recovery Act (1976) under which the EPA is given the responsibility for developing hazardous waste regulations and assigning individual states with the responsibility for developing specific hazardous waste programs. Both tasks have been difficult and controversial. However in 1980, EPA was able to publish its first set of standards and regulations, including criteria for identifying hazardous and toxic wastes, a list of specific and non-specific hazardous waste streams and a manifest system for 'cradle to grave' tracking. Implementation of this management scheme has not been smooth and by 1982 it was still bogged down at several levels [3].

The magnitude of the problem of chemical waste, the complexity and difficulty of establishing a management system, the immense cost of clean-up (even the \$1.6 billion Superfund can probably only cover the worst cases) have all raised the spectre of a situation out of control.

On the topic of hazardous waste, media coverage has been a mixed blessing. Certainly the intensive media activity around certain communities like Love Canal and Times Beach has generated interest and concern in the subject. However, news reporting, by its nature, follows the dramatic, and in the popular media time or space is rarely devoted to tracking complex issues or examining the more mundane aspects of how they can be resolved. When the public can only look to the press for information the lasting impression is of sensationalism and of problems left hanging.

The establishment of a hazardous waste management program involves a plethora of interconnecting activities and decisions which directly or indirectly impinge on the jurisdiction of each level of government. Recognizing that hazardous waste disposal is a sensitive issue surrounded by much fear and anxiety, and also that local government tends to be very responsive to its constituency, the RCRA (1976) included

certain requirements for public participation in the siting process for new facilities. This was included with little idea of how it should best be done. To date in the United States many different approaches have been used but there have been few recorded siting successes.

4.3 APPROACHING THE PUBLIC

Hazardous waste management is a relatively 'new' issue in Canada. It represents a problem of much smaller dimensions and does not have the same turbulent history as in the United States. In the early 1980's, in light of the findings of hazardous waste surveys in the United States, the Canadian Council of Resource and Environment Ministers agreed that similar work was needed in Canada. A national hazardous waste survey was subsequently conducted and a series of federal-provincial agreements were signed under which abandoned sites surveys were initiated. To date every province except British Columbia has either co-operated in or independently carried out an abandoned site survey. Several provincial governments are also engaged in active hazardous waste management programs. In Alberta, following an intensive public consultation program, agreement has been reached with a host community on an acceptable site for a treatment and disposal facility.

Alberta and Ontario, the two provinces most actively involved in developing comprehensive management strategies, have taken fundamentally different approaches to site selection for disposal facilities. In Alberta, in the belief that many municipalities could contain good though probably not ideal sites, the approach was to find a municipality that wanted the facility for the jobs and increased tax base it represents. Throughout the consultation process, the team of people involved also stressed the strict design and operating standards and monitoring procedures that would also be adopted. Swan Hills, the site selected, is about 300 km. north of Edmonton in an area that climatically, hydrologically and in terms of soil conditions may be less than ideal. Transportation and engineering costs will therefore be high.

In Ontario the approach has been to find a technically good site close to the main area of generation (within the Toronto-Montreal-Ottawa triangle) and then through open, responsive public consultation to answer concerns and hope it can be made politically acceptable. If the consultation process fails there may be court proceedings or another site may be sought. One major problem with this approach is that a second site is likely to be seen as second best. Good sites can therefore be 'spent' and the site selection rationale becomes undermined. At present the choice has been narrowed to eight sites.

In both Alberta and Ontario people involved in these processes have been very much aware that their credibility with the public is critical since they are essentially asking for public trust. Don Chant (Chairman, Ontario Waste Management Corporation) and other participants in the York University symposium on the NIMBY syndrome (1983) identified five key components of this credibility building process:

- propose and work towards a multifaceted hazardous waste management program in which the main emphasis is not on the siting of disposal facilities;
- establish an open decision-making and implementation process in which there are clearly defined steps, inbuilt consultation and no surprises;
- establish a good information flow and, as far as possible, make it a two-way exchange.
- when localized siting decisions have to be made, establish an independent body to manage the process so that government is not simultaneously proponent and regulator;
- allow enough time for the process to work properly.

Multifaceted Program

Don Chant (OWMC) has stated that a hazardous waste management program stands more chance of being accepted by the public when it investigates all options for recycling, reuse, reduction and exchange and does not concentrate on finding a landfill site [4]. He maintains that the public wants to know that the root of the problem, the level of generation by industry, is being addressed along with disposal. Where land disposal is the final unavoidable option, there should be a major emphasis on regulating the wastes input, ensuring standards are maintained, monitoring environmental characteristics, and preparing for perpetual care. There also needs to be an emphasis on proven rather than state-of-the-art technology, with any safety shortfall managed through inspection and monitoring.

Decision-Making Process

A charge commonly made by public interest groups during consultation processes is that the agenda was set and the crucial decisions were made before the process ever got started. If public trust is to be generated, direction and leadership are required, but equally important, local interests need to be respected by giving advanced warning of decisions and ensuring that adequate consultation has taken place. This may be accomplished by setting out the sequence of steps to be taken in the process so that the order of activities and decision points can be seen clearly.

Information Flow

While poor information flow cannot take all the blame for past failures in issues involving public consultation, it is usually cited as a major stumbling block in most cases. If the arguments to be presented are essentially technical then the appropriate information needs to be

readily available in a form that is clear and comprehensible. The need to understand the main issues and questions is stressed in many of the Citizen's Handbooks currently available from such organizations as the League of Women Voters (Massachusetts) [5] and The Conservation Foundation [6]. By anticipating this demand and producing the information early, the government department or crown corporation may minimize this significant source of frustration and prevent the issue from becoming polarized.

It is equally important to be open to information from the public. Details of local conditions can be crucial to later decisions and if not solicited early can completely undermine the process. In South Cayuga, Ontario, for instance, in an early attempt to establish a disposal site, the proposed location turned out to be susceptible to flooding - a point that emerged early in the proceeding but that was not acknowledged by the Ontario Waste Management Corporation until much later. It was ultimately cited as one of the main reasons for rejecting the site. In Alberta this aspect of information flow was built into the early stages of the search for a site. The geotechnical process of site selection was illustrated using an overlay technique at municipal council meetings, and details of local conditions were discussed in the same session.

An important aspect of information exchange is that it provides an opportunity to identify and address the main public concerns about hazardous waste management such as: accident risk during transportation; liability and compensation for damage; safety and performance standards; groundwater contamination; regulation and monitoring.

The Management Agency

While much of the groundwork for a hazardous waste management program is carried out by government - such as planning and direction setting, determining the adequacy of legislation and regulations, allocating personnel and funds - once the system requires a proponent or management agency (especially during siting processes), an independent body is required. This is partly to overcome the problem of separating proponent and regulator, and partly to separate the hazardous waste management activities in the public mind from other environmental issues they may want to discuss.

In Alberta although the site selection program was carried out by Alberta Environment, team members acknowledged that they were often side-tracked by other issues and that it was sometimes difficult to keep a meeting focussed. Basically the hazardous waste group needs to create its own identity and be judged by its own actions rather than on the past history of their parent department.

Allocation of Time

It takes a long time to raise public consciousness on any issue, and the more restricted the financial resources for doing it, the longer it takes. Both Don Chant (OWMC) and Ken Simpson (Director, Hazardous Waste Division, Alberta Environment, pers. comm.) have emphasized this point. In Alberta the process has taken six years to date with probably several more to go before a complete management program is in place. In Ontario several years have elapsed and the process is currently in full swing.

5. THE PERCEPTION OF HAZARDOUS WASTE MANAGEMENT IN NOVA SCOTIA

5.1 INTRODUCTION

Most people do not consider themselves to be environmentalists and at any one time may not place environmental issues very high upon their personal priority list. However, during the past ten years or so there has been a widespread trend of increasing public awareness and interest in environmental issues. The focus has been on the relationship between naturally occurring and man-made hazardous materials, and public health and safety. In particular, the development of certain cancers has been linked to an increasing number of environmental factors, and in this way personal interests are affected.

This period has also witnessed the arrival of popular science programs and magazines in which basic principles and simple systems are explained - for example, the relationship between water pollution, the food chain and bioaccumulation; or the various ways in which groundwater contamination can occur.

The public concern about environmental hazard is generally hard to determine because, in the absence of a 'hot' issue, it is unfocussed. However, it has been manifest recently in Nova Scotia in two main ways; in the high level of concern surrounding issues such as the forest spray program and the possibility of uranium mining, and the increasing number of citizen's advisory groups that are being formed to deal with watershed development issues.

The most significant common denominator in this environmental advocacy has been concern for the quality of water supplies. Although the water quality in Nova Scotia is pristine relative to parts of Europe, for example, there is also minimal reliance on purification and treatment. A tasteless contaminant could therefore go undetected for some time, as have arsenic and radon in the past.

In the setting of a heightened awareness of the public health hazards of water supply contamination, and the increasing realization that water supplies are generally unprotected in Nova Scotia, the current level of concern is likely to increase with time.

5.2 SCOPE OF THE INTERVIEWS

In order to assess the current level of concern and knowledge about hazardous waste in Nova Scotia, 60 interviews were conducted with individuals and groups with an interest or involvement in waste disposal. This involvement may have come about in several ways: through the individual's public position (councillor, alderman, mayor), through his or her job responsibilities and professional interest (municipal engineer, planner, landfill operator, federal or provincial government employee, labour representative, media representative, environmental or engineering consultant) or through personal community-based concerns (environmental and community organizations and advisory groups).

The interviews were held in five geographic areas: Cumberland County, Pictou County, Truro, Halifax/Dartmouth and Sydney - the main areas in Nova Scotia where hazardous wastes are generated.

The interviews had three main parts: part one established the background to the person or group's interest and involvement in waste management. Part two dealt with their current perception and knowledge of hazardous waste in terms of what it is comprised of, what sort of problem it represents and what hinders resolution of these problems. Part three dealt with ideas and opinions about the type and format of information and what actions are needed to address the problem of hazardous waste management locally. The following section extracts main points from the interviews and organizes them under several headings. More details on the content of the interviews and a list of interviewees is contained in Appendix A1.

5.3 MAIN POINTS

Municipal Response

Councillors are generally very much involved with the issue of waste disposal, either because of 'fights' over old, unsatisfactory dumps or the location and management of new landfill operations. In many cases the disputes over old sites have arisen because they were poorly located, accepted undifferentiated material, and were suspected or proven to be contaminating neighbouring wells. Although they are therefore aware of the potential problems hazardous waste can cause, councillors generally have little specific information about what it is comprised of. They also have very little knowledge of, but a great deal of interest in, what and how much is being produced in their area. Also what the disposal options might be. Where councillors have had some involvement with the disposal of spilled oil or contaminated soil (for instance), they were of the opinion that disposal practices were inadequate. In general councillors were uncertain of their responsibilities in dealing with hazardous waste.

At present, hazardous waste is a large gray area that is a cause for concern and a source of uncertainty[1]. Given that councillors have to respond to constituents when questions arise about hazardous materials, this lack of information can also be a source of frustration - particularly in circumstances where there is some difficulty obtaining satisfactory answers. It was felt by some that it would be helpful to integrate information on hazardous waste into a local emergency measures plan - particularly to assist the local fire departments.

Municipal engineers and planners suffer from many of the same problems of lack of information as do the councillors. The engineers have no umbrella organization through which mutual problems can be discussed and they seem to be in need of support and assistance in determining how to deal with problems arising from improper hazardous waste disposal. Some of the town engineers in the central and northern parts of the province are meeting regularly on an informal basis to discuss matters of common concern.

Planners, who in many cases have been actively engaged in municipal planning processes for several years, indicated that the process used in the location of landfills and presumably other disposal sites is often inadequate. It can be very hard to convince people that their interests are being protected where there has been a history of concern about dumping. The need for changes in the approach to siting was also brought up by consultants who have been involved in the design and siting of landfills. The point stressed there was the need for the siting process to deal very directly with concerns about site selection, management of the operation, monitoring the residual level of uncertainty, and the separation of government's regulatory role from that of proponent of facilities.

Rural landfill operators have no professional organization and little contact with each other. There is no specific training for landfill site workers. Policies concerning whether or not industrial waste can be accepted at a site vary across the province, but even with an operating manual many materials fall into a 'gray area'. In the urban areas where a wide range of materials is disposed of through the garbage collection system, it was felt that there should be more public education on the disposal of problem materials. It should be noted that in many municipalities responsibilities overlap. For example, planners or engineers may also operate landfill sites.

Health and Safety

Health and safety issues were raised by occupational health professionals, labour representatives and people involved with hazardous waste disposal. An overriding concern was the need to improve the information available on the identification, labelling and handling of hazardous waste. This has been recommended in a report submitted to the review committee examining provincial occupational health and safety regulations

by an advisory committee to the Nova Scotia Department of Labour. This issue is considered of paramount importance by the Nova Scotia Federation of Labour. Representatives of the Federation also expressed interest in engaging in a consultation process aimed at building consensus on what type of storage/transport/disposal configuration would be suitable for Nova Scotia. It was also suggested that an interdisciplinary committee could be struck to raise public awareness on issues surrounding identification, labelling and handling of hazardous materials.

A second issue was the need to improve the integrated hazardous materials emergency response structure in the Halifax-Dartmouth area. It was felt that this was necessary in order to ensure that best use is made of existing expertise and testing equipment. Health professionals, in particular, indicated dissatisfaction with the lack of consultation during incidents involving hazardous materials when public health protection is at stake. It was also suggested that meetings arranged with municipal representatives and the public could benefit from the inclusion of a health professional to address public health questions.

Interests and Role of Advisory Groups

There are several groups which serve a consultation and advisory function for government (municipal or provincial). Some are government appointed (Environmental Control Council (ECC) and the various committees of Voluntary Planning) and include representatives from a number of specific sectors of society. Others are citizen's groups which are structured with varying degrees of formality.

Of the government appointed advisory committees, the ECC and three of the Voluntary Planning sectors (Industrial, Agricultural and Land and Resources) each have an interest in the subject of waste management. The ECC and Land and Resources Co-ordinating Committee (LRCC) are both interested in the subject of hazardous waste management. The LRCC is currently actively involved in an anti-litter campaign but sees this as part of a much larger problem of waste disposal. The committee is aware of the need to change the public's perception of waste and who is responsible for it. These committees do not necessarily have access to concise information or a full appreciation of the nature of the problems posed by hazardous waste.

Citizen's advisory groups generally deal with matters affecting the maintenance (or improvement) of water quality within specific watersheds. These organizations generally include representatives of several other groups each of which has an interest in water quality. They often focus on development proposals and land use issues, although specific contamination problems receive a great deal of attention when they arise. With a few exceptions these advisory groups usually have fairly close

contacts with the federal and provincial departments of environment. This contact tends to diminish as the distance from Halifax-Dartmouth increases. The relationship between the group and the departments may suffer, and undermine what could otherwise be a supportive interaction.

The significance of these advisory groups is that they have been set up to improve communication, understanding of issues, and to promote positive actions at both the community and government levels.

Perceptions of Citizens and Environmental Groups

There are a range of organizations with no formal association with government which have diverse approaches to issues. Some concentrate on a range of issues and act as research and lobby groups. Others have a more narrow focus and often concentrate on various aspects of one issue.

Many of the more focussed groups have been formed in response to a perceived lack of understanding of public anxieties on certain issues (particularly forest spraying and uranium mining) and have had a long standing adversarial relationship with the departments of environment. The disputes may at any one time focus on a particular aspect of an issue but are basically reflecting considerable concern about the use or dispersal of hazardous materials.

In general environmental groups and individuals seem to be currently suffering from burn-out. They can perform a service in public education and broadening the scope of environmental decision-making but are currently very discouraged by an overall feeling of embattlement, particularly with respect to the provincial Department of the Environment. Ironically, this situation stems more from disagreement about the means by which objectives are achieved rather than on the objectives themselves.

A more co-operative supportive working relationship would be welcome in the pursuit of the mutual goal of environmental protection, particularly by those organizations with a long history of interest in environmental matters. This would involve more direct contact and exchange of views rather than each side talking at the other. The consultation sessions set up by Environment Canada have been generally considered unsatisfactory because there is little time or opportunity to develop discussion and thereby contribute to policy or program formulation.

The Media

There are very few reporters who concentrate on environmental issues as their 'beat'. Attention is therefore focussed on actions and incidents. When news items break, a reporter may have little background information and a limited perspective - particularly when working for the rural press which is far from the information resources of Halifax-Dartmouth.

Media people complain about the difficulty of developing contacts in government - people they know and whom they can call for quick information. Information officers are sometimes perceived as withholding rather than dispensing information. They also complain of the difficulty of getting someone to go on camera to give the government's side of the story. 'Legitimacy' is an important factor, reporters prefer to deal with people who are actually involved with an issue rather than information staff.

In general hazardous waste is not a high profile subject until it becomes 'hot'. When that happens, the way the story is reported depends very much upon the strength of ongoing contacts.

Media people have their own forums to discuss mutual problems; these include seminars held by both the Centre for Investigative Journalism and the Atlantic Community Newspapers Association.

5.4 SUMMARY

From the results of these interviews it is apparent that opportunities currently exist to disseminate information, discuss and build support for hazardous waste management. It is particularly important for people at the municipal level and in industry who are already involved with the handling and disposal of hazardous materials and who have clearly indicated a desire for more information and technical support.

Governmental and non-governmental advisory groups which have an interest in this area could also be encouraged to take on the issue, discuss it through member groups and come up with suggestions for supportive actions. A concerted effort to find ways of working co-operatively with citizen's groups on this issue should also be explored since there is a mutual interest in controlling the dispersal of hazardous materials. It is not suggested that entrenched suspicion is easy to overcome, but co-operative initiatives are likely to be welcomed and can only improve the government-citizen relationship in the long run.

An effective, integrated governmental emergency response, involving personnel from all relevant departments and making best use of existing equipment, would improve public confidence in government's ability to respond quickly and surely in matters affecting public health and safety.

Overall information sources need to have a higher profile, increased visibility and activity. For a more informed media, a specific strategy is needed to improve reporters' access to background information and enable them to update information quickly.



6. A PUBLIC INFORMATION AND EDUCATION PROGRAM

6.1 PUBLIC INFORMATION AND THE MANAGEMENT STRATEGY

In Nova Scotia the development of a hazardous waste management strategy is still in the very earliest stages. While this means that the task ahead is large, it also means that the opportunity exists to build public education, information and consultation into the strategy development process from the beginning, and thereby avoid some of the problems encountered in other areas.

There is a clear interdependence between the proposed public information program and the management strategy. As already emphasized, without informed and planned public involvement, any hazardous waste management strategy stands a good chance of being stymied by opposition. But it is equally important that public information work be linked to a clear statement of purpose regarding the development of the management strategy. If people are to spend time and energy learning about this issue they need to be given clear reasons why their involvement is needed. Therefore, as well as promulgating knowledge that hazardous wastes are a problem, governments also need to explain the basics of a management strategy; outline the process which will be used in its development; and indicate where, when and why input by various publics will be sought.

A management strategy has a development phase and an implementation phase. In the development phase the main milestones (although not necessarily in this order) are definition of hazardous wastes, researching the size and nature of the problem, developing a public participation process, developing proposals for a legislative and regulatory framework, developing a range of management options, choosing a strategy, establishing standards and criteria, and developing siting processes for any treatment, storage or disposal facilities which may be required. The implementation phase includes passing and enforcing the necessary legislation, promoting the four R's, establishing facilities if needed, and operating and monitoring them.

The basic elements of the public participation include identification of the various publics and their level of interest and involvement, education so that people have the basic knowledge needed to participate, input into strategy planning, consultation on standards and criteria, consultation in the siting process, and involvement in changing household waste disposal patterns (for example, source separation or use of special collection facilities).

6.2 SCOPE OF THE PROPOSED PUBLIC INFORMATION AND EDUCATION PROGRAM

The public information and education program set out in this section would initiate the consultation process and take place during the first stages of strategy development (Table 6.1). Its main focus is on public education so that a broad range of individuals and interest groups will be able to understand the issues involved and review and contribute to the proposed decision-making processes and management options.

This education program is a two-way process. As information on the hazardous waste problem and possible solutions is made accessible to the public, information comes back on the range of political and social issues and constraints which must be incorporated into the management strategy. In this way the education program is also an information exchange. It also incorporates a few aspects of the public input into strategy development by promoting discussion of different approaches to consensus building in hazardous waste management.

The management strategy and the public participation can be meshed together as shown in Table 6-1.

Table 6-1

STRATEGY DEVELOPMENT	MANAGEMENT STRATEGY	PUBLIC INFORMATION AND EDUCATION Public education and information exchange	PHASE 1
	Definitions Research on the problem		
	Developing public participation process	Public input into strategy planning	PHASE 2
	Developing the legislative and regulatory framework		
	Developing management options Choice of strategy		
	Establishing standards and criteria	Public consultation on standards and criteria	PHASE 2
	Developing facility siting process	Public input into strategy planning	
IMPLEMENTATION	Legislation		PHASE 3
	Promotion of four R's	Public involvement in changing household disposal patterns	
	Establishment of treatment, storage and disposal facilities if required.	Community consultation in siting process	
	Operation and monitoring	Public information and on-going involvement	



Phase 1 of the consultation process

6.3 PUBLIC PARTICIPATION STRATEGY

To reiterate, the strategy set out here represents the initial steps (Phase 1) in a participation and consultation program which would continue and develop during the course of designing and implementing a hazardous waste management plan. Once these preliminary steps have been taken, progress would be assessed, new goals would be set and Phase 2 would be designed. A similar process would be used to design Phase 3.

Goals and Objectives

The interim objective for Phase 1 would be to build a constructive consultative framework through which cooperative action can be initiated to promote hazardous waste management. The goals would be

- to disseminate information on the size and nature of the problem as widely as possible,
- to develop options for hazardous waste management,
- to approach specific publics to discuss the options and the related issues and problems identified,
- to build support for action on hazardous waste management,
- to design and begin to implement programs,
- to encourage individual publics to develop interlocking activities.

Activities

Phase 1 would involve two parallel sets of activities, one within government and the other public. The internal activities would include ongoing work of further defining the problem in Nova Scotia, investigating opportunities for the four R's, developing the legislative and regulatory framework, developing management options, and reviewing implementation strategies. Along with this would be the development of structures to support the public program, for instance, the formation of an identifiable group with responsibility for carrying out the hazardous waste program, organization of an information service for print information and telephone response, and the development of a program to produce publications and also possibly displays and audio-visual aids.

The public activities would be to contact the various publics through umbrella organizations, associations and also individually; to establish the most effective and appropriate means of communication (eg., presentations, informal meetings, seminar or workshop, maintenance of an information update service by mail), and to carry out all or most of the following steps (as appropriate):

1. Present a description of the composition of hazardous waste, how much is produced, where, what currently happens to it, and what problems it poses;
2. Introduce the concept of a hazardous waste management strategy and raise related issues such as allocation of responsibility, and means of implementation;
3. Present ideas on what can and should be done at various levels to address the issues raised in 2, and obtain feedback;
4. Develop specific information and education programs with various publics which mesh with an overall hazardous waste management strategy;
5. Begin to implement jointly or publicly sponsored information programs.

The following two sections demonstrate how publics can be identified and grouped, what avenues exist for establishing contact, and what the most appropriate means of consultation might be. The elements of an information program are developed in some detail. It also suggests where the greatest emphasis would be placed in terms of allocation of resources.

These sections should be viewed as setting out principles for what could be done and how it might be accomplished. In practice, the final design of the program inevitably depends upon the availability of staff and the allocation of money and resources.

6.4 THE PUBLICS

The publics have been grouped into categories according to their level and type of involvement with waste management and environmental issues generally, that is, whether:

- they are directly involved with the generation, handling or disposal of hazardous waste;

- they are professionally concerned with the planning, organization and design of waste management systems;
- they have a role in advising government (municipal or provincial) on environmental matters;
- they have a general environmental interest with no formal governmental connections;
- they have no specific environmental interest but as consumers and householders have a role to play in addressing the hazardous waste problem;
- they have a role or interest in promoting the dissemination of information or the development of educational activities.

Publics can also be divided into categories according to the general order in which contact would be initiated.

Category A

The involvement of these publics is critical to the success of the program. They have a major role in resolving management problems and in the development of integrated supportive actions. The publics in this category should be the focus of much of the consultation work. They are: -

- o Generators
- o Handlers and disposers
 - municipal and industrial waste handlers, including those in disposal companies
- o Planners, designers, managers and regulators of waste management
 - municipal engineers and planners
 - municipal councillors and clerks
 - other government departments eg. Health and Transportation
- o Municipal government
 - municipal councillors and clerks
 - municipal planners and engineers
- o Other government agencies
 - eg., Health, Transportation
- o Media*
 - urban and rural press, radio and television reporters

*Note: The role of the media is special in this consultation process. They report 'public interest' actions and incidents using whatever supportive information is readily available. In this early part of the consultation process the aim would be to improve that reporting by providing access to good background material, quick information services and by developing ongoing contacts with reporters. These activities should start as early as possible and are therefore included in this category.

Category B

This includes publics that have a particular interest in environmental issues and responsible waste management. The degree of interest shown by individual groups in this category may vary but there should nonetheless be a consistent effort to provide information and encourage co-operative activities. Included in this category are:

- Governmental advisory bodies
- Non-governmental consulting engineers
- Non-governmental environmental groups.

Category C

In this category are publics with special but generally non-environmental interests, which should be kept informed about the program through generalized and fairly low-key activities. They include:

- Public interest groups
eg. Service clubs, Women's Institute of Nova Scotia, Consumers Association
- Educational Institutions
- General public

Avenues for Contact

In order to make best use of limited resources, when initial contact is made with constituent groups, maximum use should be made of umbrella organizations, associations, etc. and opportunities to feed in to regular meetings, conferences, seminars and existing publications. The form of contact and subsequent follow-up is covered in the next section (6.5). More information on individual associations and organizations including addresses is included in appendices A3-A12.

1) Hazardous Waste Generators [A3]

Some industries and businesses are members of the Manufacturing Sector of Voluntary Planning (100 members). Individual industrial commissions cover those resident in industrial parks. Others may be contacted through organizations such as, for example, the drycleaners association. Individual contact would be a last resort and would presumably depend upon the size and nature of the waste stream.

2) Hazardous Waste Handlers and Disposers

Municipal landfill workers may or may not be unionized; if not they can be contacted through the municipality or individually. Unionized workers in municipalities and industry are often represented by union safety committees and in many cases by the Safety Committee of the Federation of Labour [A4]. These committees have a considerable interest in improved handling and disposal of hazardous materials and should be kept well informed. The Federation of Agriculture has separate structures through which hazardous waste issues can be addressed.

3) Organizers, Managers, Designers and Regulators of Waste Disposal

Municipal engineers have no specific formalized umbrella organization. Some meet informally to discuss mutual problems but this seems to be ad hoc arrangement and only includes municipal engineers from the central and northern part of the province. The most reliable means of contact would therefore be individual but could be combined with planners and other municipal staff. General information could be disseminated through the Association of Professional Engineers of Nova Scotia.

There is also no formal co-ordinating body for municipal planners. Some of them may meet at the annual seminar organized by the Community Planning Division of Municipal Affairs. Some, but not all, will be members of the Atlantic Institute of Planners. Many planners work for District Planning Commissions or Joint Planning Commissions that encompass several municipalities; there are eight of these around the province. They generally work closely with the engineer, clerk and councillors and therefore have a good feel for opportunities and constraints in the development of new initiatives. Lists of engineers and planners around the province are contained in A5.

All municipal Councillors are members of the Union of Nova Scotia Municipalities (A5) which holds an annual conference in September/October. At the 1984 conference a motion was passed requesting that the movement and disposal of hazardous materials receive additional attention. Municipal Council meetings are generally held monthly but each council has several committees which meet more or less frequently depending on the urgency of the issue. Occasionally joint council meetings are held when issues overlap the interests of several municipalities in one planning commission.

Other avenues for the dissemination of information and discussion at the municipal level are through the local Emergency Measures Organizations and through the Fire Departments. Volunteer firemen are co-ordinated and undergo training through their provincial association [A5].

Government departments with an interest in the handling and movement of hazardous waste would be the provincial Departments of Health, Agriculture and Marketing, and Transportation. Existing interdepartmental routes of communication could possibly be expanded to include an initiative to develop a co-ordinated emergency response group.

4) Media

Few umbrella organizations exist which would provide appropriate means for contacting media people. Two organizations, the Atlantic Community Newspapers Association and the Centre for Investigative Journalism (A11) maintain mailing lists and organize meetings. Other contact should be in the form of briefings both at an editorial level and with individuals known to cover environmental issues.

5) Governmental Advisory Bodies [A6]

Organizations included in this group have a more or less formalized relationship with provincial or municipal government. Depending upon their structure each attempts to bring together government, industry and the citizen to address a certain range of issues that have environmental implications. They include the Environmental Control Council, the Land and Resources Co-ordinating Committee of Voluntary Planning and the various watershed advisory boards around the province.

6) Non-governmental Consulting Engineers

Several engineering consultants around the province have been involved with the design and siting of landfills. They could be kept advised through the Solid Waste Management Program, through APENS, and through individual communication.

7) Non-governmental Environmental Groups [A7]

These organizations tend to act independently and maintain rather diffuse links. Two means of disseminating information that would cover most groups with an interest in this issue would be the ENGO network developed by Environment Canada and the Ecology Action Centre newsletter.

8) Public Interest Groups [A8]

A list of public interest groups is contained in A8. They would be contacted individually.

9) Educational Institutions [A 12]

Staff in university and college level programs in planning, engineering and agriculture can be contacted directly through the institutions and also through professional associations.

The provincial Department of Education has a number of consultants on staff to advise on programming and the development of inservice training for teachers. Individual school visits are arranged through the principals and the specific teacher involved. In Appendix A- the only secondary schools listed are high schools and vocational schools.

10) General Public

It is anticipated that until specific local activities are planned the general public would be advised through the media. Householder mailings may be used occasionally and also information may be disseminated through the other groups listed above.

6.5 MAJOR ELEMENTS OF THE PUBLIC INFORMATION AND EDUCATION PROGRAM

The following are the major elements of the proposed information and education program. The elements are numbered (E1 - E11) so that they can be linked to the different categories of public in Table 6-2. Where more detailed information is available, this is indicated by an appendix number in brackets, [A3] etc.

E1 Initial Brochure

An inexpensive brochure for wide distribution.

This brochure will notify all the main interest groups identified, with the exception of the general public, about the intentions of the public information and education program, its main elements, and ways to participate. At this point the emphasis would be primarily on the process rather than on the problem. The two-way nature of the information exchange would be emphasized.

E2 Information Service

A telephone information service, co-ordinated with other government agencies and departments, providing easy access to information on all aspects of hazardous wastes.

This is essentially a more formalized and better promoted extension of a service which is already offered. The service should have a memorable name (Hazardline?) and a toll-free number. A small card with the necessary information should be distributed, perhaps with the initial brochure, or even more widely by such means as inclusion in power bills.

The service would provide information on properties and hazards of specific materials, safe methods of handling, treatment and disposal options, storage, and direct callers to information sources on recycling and reuse. The service could also act as a referral point for people wishing to report spills, illegal dumping, or suspected contamination.

As questions are likely to address issues which cross jurisdictional responsibilities, co-operation between different levels of government, departments and agencies, would be essential. It would be clearly understood that the service would refer callers to the appropriate authorities.

It would be necessary to develop a reasonable collection of resource materials, and to have access to other information services and data banks (for example the Canadian Centre for Occupational Health and Safety data bases, accessible through the N.S. Department of Health). Referral protocols should also be established.

The advantages of this information services are threefold:

1. It would raise the profile of hazardous waste management.
2. It would provide a valuable service to a large number of people across the province.
3. It would encourage better waste handling and disposal practices.

E3 Recycling Seminar

A seminar on the recycling and reuse of both hazardous and non-hazardous materials for industry and government representatives, and interested members of the public.

This event could act as a kick-off for the program. Numbers of participants would be limited (by invitation) but every attempt would be made to get a cross-section of interests. The media would be invited and briefed in order to gain as much publicity as possible. In this way it should be possible to establish the concept of the four R's as being a major component of a hazardous waste management strategy, thus establishing a more positive image than that usually suggested by treatment and disposal facilities.

E4 Initial Consultation Meetings

One or more rounds of information exchange meetings with industry, labour, municipalities, advisory groups, environmental and conservation groups, and public interest groups, to provide basic information on hazardous wastes and identify issues and concerns.

The purpose of these meetings would be to provide information on:

- basic terminology and concepts relating to hazardous waste
- what is known about the extent of the problem
- what a management strategy is
- what decisions need to be made and the process to be used
- why public involvement is sought.

The participant would then be asked to give a preliminary indication of the concerns and issues from their particular perspective, recognizing that more opportunities for input will occur. There should also be discussion about specific ways in which the particular interest group could become involved, through input into the strategy development, or public education or information projects which they themselves could sponsor.

It is anticipated that one meeting is unlikely to be sufficient, and if time and resources permit, at least a second round should be scheduled. In this way the more general information could be conveyed in the first meeting, and the areas of specific interest could be discussed, after time for preparation, in the second. If only one round of meetings is possible it should be made clear that public consultation will continue throughout the development and implementation of the management strategy.

As already explained in 6.4 The Publics, the initial consultation meetings would be started in the following order:

- First phase - Generators
 - Labour
 - Municipalities
- Second phase - Advisory groups
 - Environmental and Conservation groups
- Third phase - Public interest groups

Resources

The existing slide show would be a useful resource, especially if adapted to incorporate more specific information on the size and nature of the problem in Nova Scotia and the main elements of a management framework.

Copies of the Handbook (E5) could be distributed at the meetings.

Generators (A3)

Generators would be approached through appropriate industry associations, industrial park tenants' associations, and through Voluntary Planning's industrial sector meetings. These consultation meetings could also be used to introduce the Information Service and explain its use to industry, and the industry information bulletins.

Labour (A4)

The main focus would be on The Federation of Labour through its occupational health and safety committee, although unaffiliated unions, such as the Halifax Civic Workers which represents workers at the Mount Uniacke Landfill Site, may also need to be contacted.

Municipalities (A5)

The municipal initial consultation meetings would be a key component in the program. To concentrate on areas with a significant industrial base and to avoid numerous meetings with individual councils, it would be preferable to conduct joint meetings, especially where District Planning Commissions operate. It is recommended that each meeting be preceded by an informal meeting with regional planners and engineers to explain the program and to obtain information on local conditions and problems.

Issues of particular interest to municipalities include the role of municipal landfills, the monitoring and prevention of illegal dumping, managing household hazardous wastes, "right-to-know" by-laws, transportation, emergency response, and facility siting processes.

Advisory Groups (A6)

Consultation could occur on an individual basis or groups could be brought together where feasible. Watershed advisory groups in particular are likely to want information specific to their area. Where individual members on an advisory board represent a specific constituency or organization, they should be encouraged to take the information back with them to the people they represent.

Environmental and Conservation Groups (A7)

Environmental groups in Nova Scotia do not have an umbrella organization but could be brought together through the regional ENGO (Environmental Non-Government Organizations) network. Alternatively groups and interested individuals (people often participate in environmental activities as

individuals rather than through formal group affiliations) could be invited to attend meetings on a regional basis within Nova Scotia.

By meeting with environmental groups after the first meetings with generators, labour and municipalities, and yet still early in the process, it should be possible to build credibility by demonstrating that government agencies are already taking action.

Public Interest
Groups (A8)

Public interest groups include both those with a special concern (eg. Consumer Associations) and those whose interest is more likely to relate to their local community (eg., The Rotary Club). Service groups in particular may be interested in sponsoring their own public education or information programs.

E5 Hazardous Wastes Handbook (A9)

A handbook containing basic information on hazardous wastes and their management for local government officials, industry, environmental groups, citizens and the media.

The purpose of the handbook is to provide everyone potentially involved in any aspect of the hazardous waste management strategy with the same base of information. A second purpose is to introduce all the dimensions of the hazardous waste management problem - scientific, technological, political, social and economic - at the outset.

Because building credibility is an important part of the strategy development, and because governments are often seen as chiefly the proponents of treatment and disposal facilities, it would be desirable to produce the handbook under the sponsorship of a non-governmental body (eg., a university extension department, an environmental or citizens' organization).

Contents could include:

- Definitions and properties of hazardous waste
- Environmental pathways and health hazards
- Sources and quantities in Nova Scotia
- Current management of wastes

- Reuse, recycling, reduction and recovery
- Treatment and disposal technologies
- Legislative and regulatory framework
- Standards and Criteria
- Management options
- Facility siting
- Jurisdiction and legal responsibilities
- Community concerns
- Public participation
- Environmental mediation and compensation
- Coping with household wastes
- Ways for the public to promote better hazardous waste management
- Where to get more information

The handbook would be distributed with a brief questionnaire or feedback form. to encourage individual responses and suggestions.

The handbook could be distributed free of charge to all the major interest groups contacted during the information and education program, and then sold at a reasonable cost (under \$5) to other interested people or organizations.

E6 Industry Information Bulletin (A10)

An occasional bulletin on waste management mailed to industries, to circulate information on management options, new technology, and appropriate case studies in Nova Scotia and elsewhere.

The bulletin would serve two main functions by providing useful information, and also signalling to industry that waste management is a priority issue. The bulletin could also promote the service provided by the Canadian Waste Materials Exchange Bulletin.

The bulletin could include:

- Relevant clippings
- Notice of conferences, seminars, training sessions
- Annotated references to new publications
- Information on recycling and reuse opportunities

- Waste exchange opportunities
- Information on waste audits and waste stream separation
- Financial incentive programs.

E7 Media Program [All]

Background materials, briefing sessions, participation in media seminars, promotion of the information service, individual contacts and advertising to promote coverage of hazardous waste management issues and to develop environmental reporting capability in Nova Scotia.

The initial announcement [E1] of the information and education program to the media would be accompanied by a press kit. This would be prepared before the Handbook [E5] and would not be expected to cover all of the same ground, but would instead pull together all available information on hazardous wastes in Nova Scotia.

The press kit would be followed up by phone calls to selected reporters and editors to encourage questions and interviews.

A briefing session for reporters could be offered, perhaps in co-ordination with the recycling seminar [E3]. In this way reporters would be able to improve their background knowledge, but at the same time file a story for their editors. Because reporters often find it difficult to be given the time to attend such sessions if not directly connected to a 'hot' story, attendance may well be low, but the session would still be worthwhile even if only interested freelance journalists attended.

Other ways to reach journalists would be through seminars held by the Atlantic Community Newspapers Association (regularly) and the Centre for Investigative Journalism (occasional).

Follow-up would be an important part of the media program, to be accomplished by circulation of the handbook when prepared [E5], press releases and individual contact with journalists. For example, when holding an initial consultation meeting [E4] with a group of councils, appointments should be made to meet with the editors of the community newspaper in the area.

To reach the audience beyond Halifax-Dartmouth a series of short articles on hazardous waste management could be circulated to community newspapers. This would be an extension of a service already provided by Environment Canada.

If resources allow, a series of information advertisements (quarter-page) could be placed in newspapers across the province. This would occur somewhat later in the program in order to inform the general public about the hazardous waste management initiatives and to provide some basic information. Content could include:

- Advertisement #1 - What are hazardous wastes and what threat do they pose?
- Advertisement #2 - What is a management strategy and what management options exist?
- Advertisement #3 - What an individual can do [What hazardous materials are used in the home, and how should they be handled; how to report illegal dumping; where to get more information].

E8 Schools Program [A12]

Resource materials and suggestions for teachers to incorporate waste management issues into environmental, social and economic curriculum at the high school level.

While a schools program would not warrant the same priority as, say, consultation meetings with municipalities or organized labour, it still constitutes a valuable investment in two ways. Graduating high school students are already or soon become voters, and materials and concepts introduced at school often find their way back to the parents. The hazardous wastes problem is both topical and multi-disciplinary and therefore lends itself to use as a case-study in a number of subject areas.

Rather than producing a full curriculum unit, which is a lengthy process and has no guarantee of formal school board acceptance, it is suggested that resource kits be produced with a teacher's manual suggesting different ways the materials can be incorporated into existing curriculum units. For example, a teacher in Dartmouth has built an urban planning component into a geography course. This approach will require research into existing curriculum approaches and extensive consultation with teachers, N.S. Department of Education, and students.

Once the resource kit is designed and prepared and a distribution system established, in-service training sessions would be provided to interested teachers.

As time permits classroom presentations could also be incorporated into the schools program, using both the existing slide show and new display materials as appropriate.

E9 Conference on "Consensus-Building in Waste Management"

A conference with participation by a wide range of interest groups and individuals to discuss participation in the development of a waste management strategy for Nova Scotia.

This conference would act as a culminating event for this information and education program, and therefore the first phase of the total management strategy consultation program. The conference would accomplish four things:

1. It would bring together many of the people already contacted through the program and help to establish links between them.
2. It would provide ideas and suggestions to be incorporated into the development of a public participation component of the management strategy.
3. It would directly address, and hopefully lay to rest, the spectre of the NIMBY-syndrome by focussing on participatory methods of consensus building.
4. As a relatively large public event, with good media preparation and extensive promotion through other elements of the program, the conference should attract the attention of the broader public.

The content of the conference could include:

- Case studies
- Risk assessment and analysis
- Environmental mediation
- Formal hearings and enquiries
- Resources for citizens
- Objectives and techniques for participation
- The public participation experience in Alberta [for contacts see A1] and Ontario.

The format should encourage discussion through small groups, and attempts to develop recommendations through the conference.

E10 Program Evaluation

An ongoing and systematic appraisal of the effectiveness of the information and education program in order to adapt approaches used as necessary.

Unfortunately public consultation programs receive only very subjective evaluation, if any at all. It is recommended that in order to learn as much as possible, an evaluation system be established - preferably with outside assistance - during the planning stages of the program. Yardsticks may be quantitative, qualitative, or both. The important goal is to establish clear and reasonable objectives and then to assess how well they are met.

E11 Phase 1 Consultation Report

A brief report summarizing the consultation program to date, concerns and issues raised, and making recommendations where appropriate for future consultation phases.

This report, to be circulated to all interested parties, will pull together the results (assisted by the program evaluation) of the consultation so far and will allow participants to review contributions from other interest groups.

Table 6-2 Public Information and Education Program: Integrated Chart of Elements and Publics

GENERATORS	Information Brochure E1
	Information Service E2
	Recycling Seminar E3
	Initial Consultation Meetings E4
	Handbook E5
	Industry Information Bulletin E6
	Consensus Building Conference E9 Phase 1 Consultation Report E11
HANDLERS AND DISPOSERS	Information Brochure E1
	Information Service E2
	Recycling Seminar E3
	Initial Consultation Meetings E4
	Handbook E5
	Industry Information Bulletin E6
	Consensus Building Conference E9 Phase 1 Consultation Report E11
MUNICIPAL AND OTHER GOVERNMENTS	Information Brochure E1
	Information Service E2
	Recycling Seminar E3
	Initial Consultation Meetings E4
	Handbook E5
	Industry Information Bulletin E6
	Consensus Building Conference E9 Phase 1 Consultation Report E11
MEDIA	Information Brochure E1
	Information Service E2
	Recycling Seminar (in attendance) E3
	Media Program E7
	Consensus Building Conference E9 Phase 1 Consultation Report E11

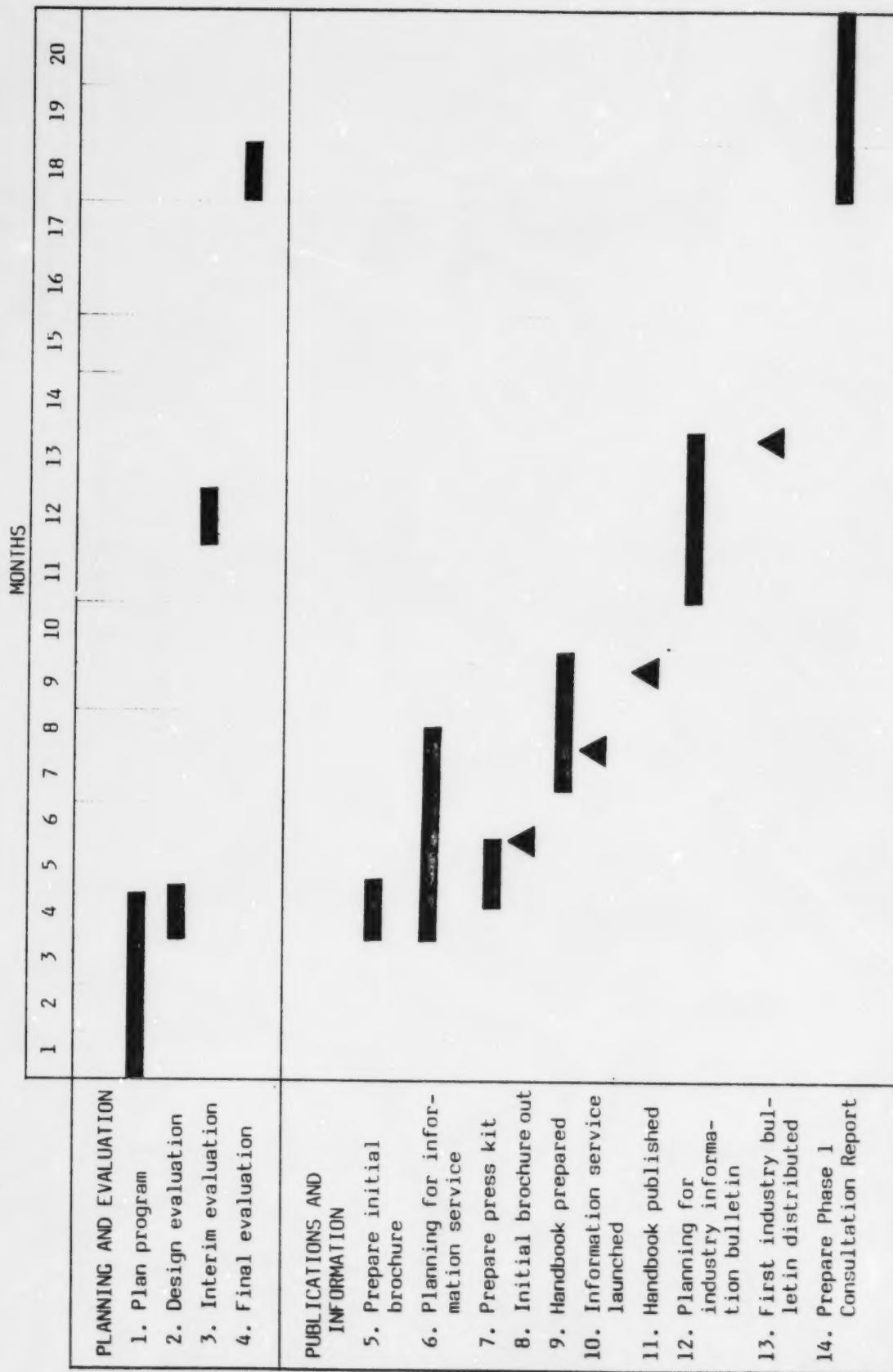
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Table 6-2 cont'd.

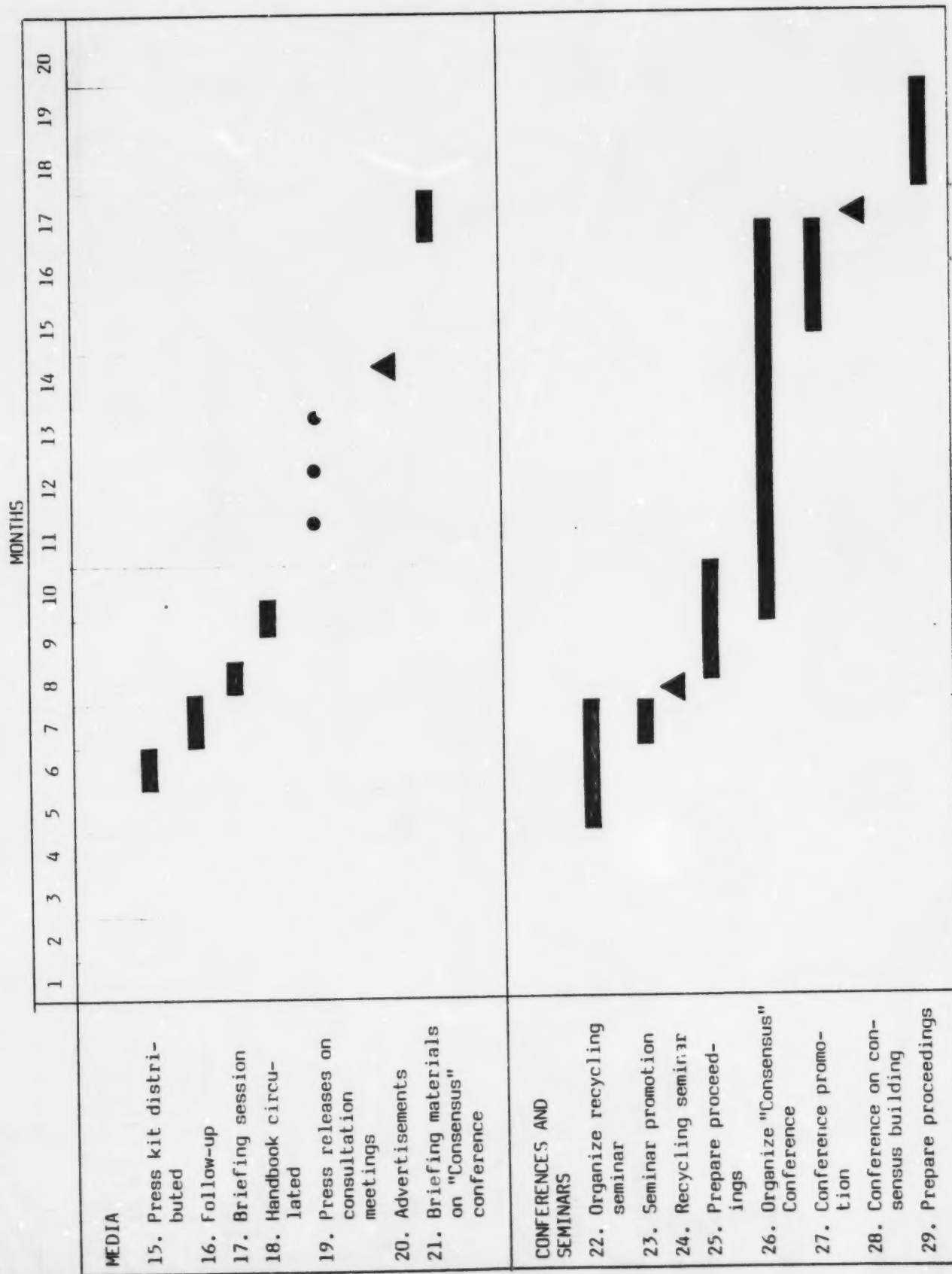
GOVERNMENTAL ADVISORY BODIES	Information Brochure E1
	Information Service E2
	Recycling Seminar* E3
	Initial Consultation Meetings E4
	Handbook E5
	Consensus Building Conference E9 Phase I Consultation Report E11
NON GOVERNMENTAL ENVIRONMENTAL GROUPS	Information Brochure E1
	Information Service E2
	Recycling Seminar* E3
	Initial Consultation Meetings E4
	Handbook E5
	Consensus Building Conference E9 Phase I Consultation Report E11
NON GOVERNMENTAL CONSULTING ENGINEERS	Information Brochure E1
	Information Service E2
	Recycling Seminar* E3
	Handbook E5
	Consensus Building Conference E9
PUBLIC INTEREST GROUPS	Information Brochure E1
	Information Service E2
	Recycling Seminar* E3
	Initial Consultation Meetings E4
	Consensus Building Conference E9
	Phase I Consultation Report E11
EDUCATIONAL INSTITUTIONS	Information Brochure E1
	Information Service E2
	Schools Program E8
GENERAL PUBLIC	Information Service E2
	Media Program E7

*Note: Depending on the number of participants accommodated.

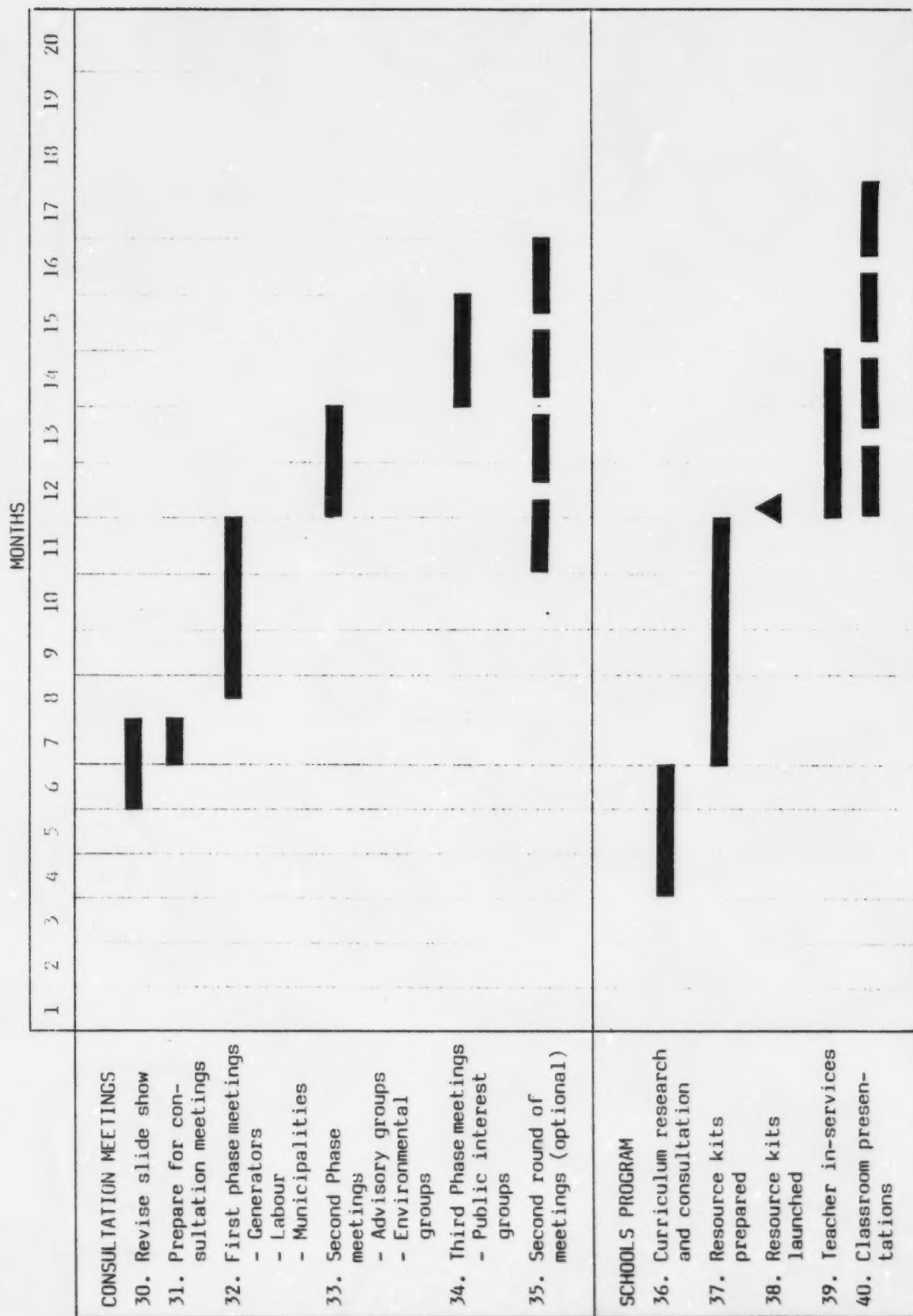
6.6 SCHEDULE FOR PUBLIC INFORMATION AND EDUCATION PROGRAM



6.6 SCHEDULE FOR PUBLIC INFORMATION AND EDUCATION PROGRAM cont'd.



6.6 SCHEDULE FOR PUBLIC INFORMATION AND EDUCATION PROGRAM cont'd.



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Section 3

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No person shall own, occupy, operate or be responsible for the operation of a plant, structure, facility, undertaking or thing that discharges, releases, deposits, drains, emits or threatens or allows the discharge, release, deposit or drainage or emission of waste into the environment unless he has obtained a permit from the Minister.
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Section 4

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6. The Conservation Foundation, 1983. Siting Hazardous Waste Management Facilities: A Handbook.

Section 5

1. The following resolution was passed by the Annual General Meeting of the Union of Nova Scotia Municipalities in September, 1984.

Resolution No. 25 (A42)Handling of and Disposal of Hazardous Wastes

- Municipality of the County of Cumberland (Cumberland Regional)

WHEREAS there is no disposal site in the Atlantic Region for the disposal of hazardous waste;

AND WHEREAS this hazardous waste is being stored in or transported out of the region;

AND WHEREAS there is a danger involved in the transportation of such hazardous waste;

BE IT THEREFORE RESOLVED that the Union of Nova Scotia Municipalities approach the Provincial Government to provide a safe means of handling and disposing of hazardous waste products.

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APPENDICES

A1 INTERVIEW LIST AND INTRODUCTION

Provincial Government

Art Crouse	NSDOE
Rick Hand	NSDOE
Derryl Hynick	NSDOE
Duncan MacKay	NSDOE
John Perkins	EMO
Gary Croswell	Development
Peter Griffin	Development
Steve Newsom	Development
Peggy Tibbo	Development
Dr. David MacLean	Cumberland County District Health Officer
Shelly Gray	N.S. Dept. of Health (Occupational Health)
Jim LeBlanc	N.S. Dept. of Health (Occupational Health)
Balwant Khatri	N.S. Dept. of Health (Occupational Health)

Municipal Government

Ira Drysdale	Councillor, Cumberland County
Brad Fox	Councillor, Pictou County
Elenor Fraser	Councillor, New Glasgow
John Henderson	Councillor, Pictou County
Ann Wren	Councillor, Town of Pictou
Dorothy Boehk	Councillor, Town of Westville
Dianne Hayman	Councillor, Town of Westville
Murdoch MacKay	Councillor, Halifax County
Joe Pat MacKinnon	Councillor, Cape Breton County
John Coady	Councillor, Cape Breton County
Manning MacDonald	Mayor, City of Sydney
Sherman Zwicker	Executive Director, Union of Nova Scotia Municipalities
Jens Jensen	Executive Director, Cumberland District Planning Commission
Vern Parrett	Chief Administrative Officer, Town of Amherst
Ron Patterson	Town Engineer, Town of Amherst
Rick Spanik	Planner, Pictou District Planning Commission
Doug Foster	Planner, Cape Breton Metropolitan Planning Commission
Peter Oickle	Planner, Lunenburg District Planning Commission

INTERVIEW LIST cont'd.

Industry

Tom Howard	Howard Industries
Bob Fourgiere	East Coast Waste Oils
Warren Smith	Aerovox

Landfill Site Operators

Rene MacEachern	Halifax-Dartmouth
Mike McGill	Town of Truro

Labour

Rick Clarke	Federation of Labour
Leo MacKay	Federation of Labour

Environmental and Community Organizations

Liz Calder	Ecology Action Centre
Susan Holtz	Ecology Action Centre
Hester Lessard	South Shore Environmental Protection Association
Joanne Lamey	CPAC
Ruth and Aaron Schneider	CAPS
Jordan and Joan Bishop	Sydney
Henry Holgate	Sydney

Advisory Groups

Charles Musial	Bridgeport Basin Advisory Committee
Anne Merritt	Sackville Rivers Advisory Board
Education Sub-Committee	Land and Resources Co-ordinating Committee, Voluntary Planning Board
Maurice Haugg	Environmental Control Council

INTERVIEW LIST cont'd.

Case Study Areas

Paul Kyle	Cumberland County residents, leaders of CRUD
Dick Beswick	Cumberland County residents, leaders of CRUD
Francene Cosman	Town of Bedford
Malcolm Maxwell	Former Cumberland County resident

Media

Elizabeth Haines	CBC, Radio Noon
Eleanor MacLean	CBC, Information Morning
Susan Murray	CBC Radio
Jane Lashbrook	Atlantic Community Newspapers Association
Valerie Mansour	Freelance journalist
Susan Sherk	Community Co-ordinator, Mobil Oil

Consultants

Harold LeBlanc	Nolan Davis
Gerry Isenor	Porter-Dillon

Alberta

Ken Simpson	Director, Hazardous Waste Section, Alberta Environment
Jennifer McQuaid-Cook	Hazardous Waste Section, Alberta Environment
Walter Harris	Hazardous Waste Section, Alberta Environment
Dr. J.R. Nursall	Environment Council of Alberta
Dr. Alisdair Crerar	Environment Council of Alberta

INTRODUCTION SENT TO INTERVIEWEES

August 8, 1984

A STRATEGY TO PROMOTE
HAZARDOUS WASTE MANAGEMENT

A Project for Environment Canada
July - October 1984

SUMMARY

- Hazardous waste management is one of the critical environment issues of the eighties. Yet in Nova Scotia there has been little public debate about the best ways to tackle the problem.
- Environment Canada wishes to develop a hazardous wastes public information and consultation strategy, which will promote constructive public discussion and encourage the participation of a wide variety of interest groups. Griffiths-Muecke Associates have been hired to help them with this task.
- We will be conducting a series of interviews with people and groups that have either had some direct involvement in hazardous wastes issues, have expressed concern, or could potentially be directly affected. We will be trying to find out how the issue is perceived, what information needs exist and what ideas people have for bringing the subject of hazardous waste management to the forefront. We will also be reviewing information from other areas.
- This project is concerned with all aspects of hazardous waste management - reduction, re-use, recycling, transportation, regulatory systems, treatment and disposal.
- We will send a summary of the study's results to everybody who participates in the project.

A2 ISSUES AND CONCERNS [FROM THE INTERIM REPORT, NOV. 26, 1984]

PROVINCIAL GOVERNMENT - VOLUNTARY PLANNING (See also the notes on Advisory Groups)

1. The Voluntary Planning Board advises the provincial government, and is composed of a number of sectors. The secretariat is provided by the Department of Development.
2. Four sectors deal with matters pertinent to Hazardous Waste Management: Manufacturing, Transportation, Land and Resources, and Agriculture. The four co-ordinators all stated that their committees would probably be interested in consultation.

PROVINCIAL GOVERNMENT - HEALTH PROFESSIONALS

- At present the emergency response in the Halifax-Dartmouth area does not make best use of expertise and equipment in Occupational Health (Dept. of Health). A more co-ordinated formalized response mechanism is required.
- Workers do not have adequate information about hazardous chemicals (including waste). Labelling is often inadequate. Worker safety committees usually have to rely on management for information though the unions are beginning to produce pamphlets etc. Also needs to be more awareness of need for wash stations, protective clothing, etc.
- People are largely concerned about the health aspects of spills etc. yet health officers are not informed when they take place and find it hard to get information from NSDOE.
- When public meetings/consultation sessions take place a health official should be present to talk about the health aspects of the hazardous waste problem.
- Certainly a need for a comprehensive hazardous waste management plan.
- The news media seems to be very ill-informed and do not necessarily contribute to the understanding of issues.

ISSUES AND CONCERNS cont'd.

MUNICIPAL REPRESENTATIVES

1. In general councillors (and often planners) do not know what constitutes hazardous waste. It was apparent that hazardous waste disposal was not necessarily currently high on their priority list usually because they think that not much is produced in their area. It was also clear from the level of interest in the topic that this perception could well reflect a general lack of information.
2. All municipal representatives were very interested in how much is produced in Nova Scotia, how much and what kind is produced in their area, and what are the disposal options.
3. Waste disposal tends to take up a lot of their time and often a lot of their funds. They are generally preoccupied by the problems of sanitary landfills. The problem of hazardous waste disposal is certainly of interest but since no mechanism exists (to their knowledge) to handle it, they are uncertain as to their involvement or responsibilities. There is also a perception that if there is a hazardous waste problem then the Province has to come up with the money to solve it.
4. Where contamination arises periodically as a hot issue, they are often dissatisfied with the way it is handled and the fact that final disposal (of spilled oil, contaminated soil, etc.) is problematic. There is a general perception that current disposal practices are very inadequate.
5. There is a general dissatisfaction with government response to environmental concerns. It was often indicated that certain longstanding grievances (eg., Boat Harbour in Pictou County, Devco and Sysco in Cape Breton, and possibly the Kurdistan oil in the Woodbine landfill site) would have to be addressed before they would be willing to talk about hazardous waste.
6. In general the complaints about 'Environment' was the perceived weakness in dealing with industry violators, in enforcing regulations and carrying out cleanup operations. It was indicated that credibility could only be re-established through a more purposeful stand.

ISSUES AND CONCERNS cont'd.

MUNICIPAL REPRESENTATIVES cont'd.

7. Municipal councillors generally perceive that a hazardous waste management program should be tied into their emergency measures plans. Certainly safety issues surrounding transportation of hazardous wastes would be a main concern. It was suggested, for example, that the local fire chief should be aware of the nature of the materials being transported through the communities.
8. Planners indicated that the biggest problem in landfill siting has been the process that has been used. It has often been difficult to convince local people that their interests are being protected by government agencies. They are often unconvinced that promises will be carried through. When in doubt, councillors will reflect uncertainty of their constituents and will not provide leadership.
9. It creates confusion having people coming separately from NSDOE and Environment Canada to speak to the same problem when there is apparently little co-ordination between them.
10. Municipal engineers have no umbrella organization in Nova Scotia or regular contacts with NSDOE. A need for information and support was expressed so that they have a clearer idea of how to respond to complaints about environmental problems.
11. While government waits for public opinion on hazardous waste to develop, the credibility of environmental agencies decreases.

INDUSTRY

1. Given the diversity of industry in the province we were uncertain to what extent those industry managers interviewed in any way represented more general views. One way to reach a wider cross-section would be through the Manufacturing sector of the Voluntary Planning Board. Membership exceeds 150, and is divided in regional committees.

ISSUES AND CONCERNS cont'd.

LANDFILL SITE OPERATORS

1. Landfill site operators have no professional organization and little contact with each other. Some of the town engineers in the central and northern parts of the province are meeting on a regular but informal basis to discuss matters of common interest. This sharing of practical knowledge is much valued, but more formal organization is definitely not wanted.
2. There is no specific training for landfill site workers. Most of them are just trained for equipment operation.
3. Policies about taking industrial waste are very varied across the province (or non-existent). Even with an operating manual many materials fall into a "gray area". The relationship with N.S. Department of Environment is ambivalent in this area. Even though landfill operators have the final say, they are dependant on the Department for information and advice, and sometimes feel pressured to take certain materials.
4. Garbage handling can be very dangerous. There is a need for more public education on disposal of problem materials.
5. The Metropolitan Authority would like more power over the materials they receive, but doubt if they could get by-laws to take effect off their premises.

LABOUR

1. Occupational health and safety legislation in Nova Scotia is very poor and full of loopholes. The Federation of Labour is participating in an advisory committee to the N.S. Department of Labour, which has presented a report with recommended changes to bring the Act into line with the other provinces.
2. Workers are seeking three basic rights:
 - the right to know what materials they are handling
 - the right to refuse hazardous work
 - the right to participate in decisions about occupational health and safety.

ISSUES AND CONCERNS cont'd.

LABOUR cont'd.

3. The right to know is the first basic step required before, for example, information and education on handling hazardous material. Therefore more progress is required on the matter of labelling.
4. The Federation of Labour would be very interested in participating in a consultation process aimed at building consensus on what kind of storage/transport/disposal configuration is suitable for Nova Scotia.
5. A suggestion was made that Environment Canada, in conjunction with the Province, should institute some form of committee, perhaps for the Atlantic Region, to raise public awareness on issues surrounding the identification, labelling and handling of hazardous materials.

ENVIRONMENTAL AND COMMUNITY GROUPS

1. There is a general feeling of burn-out and discouragement among people with a long-term involvement in environmental concerns. This is unlikely to be a permanent condition, but individuals and groups do seem to be going through a period of taking stock.
2. People are aware of hazardous waste as an issue, but do not have much information on its magnitude. It is probably unrealistic to expect many environmentalists to give hazardous waste management high priority for action because they have been and still are investing time and effort in the forest spraying and uranium issues.
3. People are very perturbed at what they see as the unresponsiveness of the provincial Department of Environment to public input. Instead of being able to develop a working relationship to pursue the mutual goal of environmental protection, environmentalists feel they are constantly having to fight the Department. Individuals within the Department are sometimes seen to be helpful, but a more open attitude towards public participation is needed if the Department is to gain credibility.

ISSUES AND CONCERNS cont'd.

ENVIRONMENTAL AND COMMUNITY GROUPS cont'd.

4. Environmental groups and individuals perform valuable service in public education and in broadening the scope of environmental decision-making. They believe that more resources should be available to them, especially if Environment Canada is asking them to get involved in a hazardous waste education program.
5. There was considerable dissatisfaction with the way Environment Canada has conducted the consultation sessions, but general commitment to the idea of consultation itself. The apparent lack of interest stems from the feeling that so far real consultation (listening to the public and amending policy and programs where necessary) has not taken place. Instead the Department talks at people and focusses on explaining the limits of its jurisdiction.
6. One person emphasized the importance of getting directly interested parties in a dispute to negotiate face to face, i.e., those who will benefit, and those who will bear the costs. People are tired of always dealing with the government in a third party role, almost serving a public relations function.
7. More direct contact with Environment Canada is wanted. Staff should get out of the office. Regional representatives should be accessible to people who live a long way from Halifax.

ADVISORY BOARDS

These are of two types: government-initiated (ECC and LRCC) and citizen-initiated (Sackville Rivers Advisory Board and Bridgeport Basin Environmental Committee).

ECC and LRCC

1. Both essentially act between citizens and government, compiling information and making representations at senior government levels. Both also see a role for themselves in information dissemination to the public.

ISSUES AND CONCERNS cont'd.

ECC and LRCC cont'd.

2. Both groups are interested in the subject of hazardous waste management and see a potential role in promoting public awareness.
3. The LRCC is currently quite actively involved in an anti-litter campaign but sees this as part of the much larger problem of waste disposal. They are aware of the need to change the public's perception of waste and who is responsible for it.

SRAB and Bridgeport Basin Environmental Committee

1. The experience of these two groups is very different. SRAB operates within the greater Halifax-Dartmouth region, has frequent contact with individuals at NSDOE and generally is fairly satisfied with the response received. (From the personal experience of Anne Muecke with the Shubenacadie Lakes Advisory Board and the Dartmouth Lakes Advisory Board, this perception would be generally shared.) Certainly this immediacy of contact and personal acquaintance with individuals in NSDOE is very important.
2. The Bridgeport Basin E.C., located in the Sydney area apparently feels unsupported and frustrated with government agencies. In pressing for action on the acid and silty runoff from the Devco coal preparation plant the chairman feels little support has been given. He feels they have moved from optimism about the possibility of co-operative action to frustration about the lack of response.

Broadly, the groups are both concerned about fairly specific environmental issues and have little information about hazardous waste. Neither has had any involvement in the public consultation program.

CUMBERLAND COUNTY

1. Municipal representatives, both councillors and staff, are still concerned about the proper treatment and disposal of hazardous waste, and must be involved in management planning.

ISSUES AND CONCERNS cont'd.

CUMBERLAND COUNTY cont'd.

2. The rumour-mill is very active in Cumberland County. Many people have heard about a variety of schemes (storage in Springhill mines, or the old salt mines, Rusty Drew's proposed facility). There appears to be a fear that Cumberland County has been singled out to receive wastes, and that only by constant opposition will this be avoided.
3. The source of the wastes is a central issue. People assumed that the facility would treat wastes from all of Eastern Canada and possibly the states. This was deeply resented.
4. People are well aware of the potential for transportation accidents. The narrow isthmus makes this very visible.
5. The response to the preliminary site selection work appeared to stem from a mixture of genuine concerns about the adequacy of the work; profound dissatisfaction with the process; and the mishandling of the response, especially in public meetings, after the first protests were made. A certain amount of opportunistic and perhaps irresponsible agitation was also involved, but the whole debacle should not be blamed on this.

THE MEDIA

1. There are very few reporters who concentrate on the environment as their "beat".
2. The general impression is that, with a few exceptions, government departments have poor relations with the media. Information officers are sometimes perceived as withholding rather than dispensing information.
3. Contacts must be developed by face-to-face meetings, to develop understanding and trust.
4. Stories need a person on camera. If government staff are unwilling to speak, their side of a story may not get represented.

ISSUES AND CONCERNS cont'd.

THE MEDIA cont'd.

5. Hazardous waste is "a story", but not a hot one until something dramatic happens. Nevertheless work can begin on building a working relationship with the media and building background knowledge in preparation.
6. Press conferences and briefing sessions may not be well attended unless the story is hot, but instead individual meetings with people at the supervisory level - editors, executive producers - can be used to get across the significance of the issue.
7. "Legitimacy" is a very important factor. Reporters prefer to deal with those people who are actually involved with an issue, rather than with PR or information staff.
8. If reporters are asked to participate in a briefing session they must be given a story - they need to justify their time to their editor.
9. Access to information and research is particularly difficult for the smaller community newspapers.
10. Possible forums to speak with media people include seminars held by both the Centre for Investigative Journalism and The Atlantic Community Newspapers Association.

CONSULTANTS

1. Before going to the public to talk about joint responsibility for hazardous waste management, the federal department should ensure that waste in federal establishments and crown corporations is properly managed.
2. In the face of a public demand for certainty during siting processes (landfills), government spokesmen tend to be reluctant to talk in terms of uncertainty. This ultimately works against them. There needs to be forthrightness about the reality of the situation and the residual risks after all reasonable precautions have been taken.

ISSUES AND CONCERNS cont'd.

CONSULTANTS cont'd.

3. A sizeable number of landfill operations have been established with little rancour or problems. Where problems occur they often stem from a perceived desire for government to find a politically acceptable solution which short circuits the site selection process, public consultation and site monitoring after the landfill has been established.
4. Government should stay at arm's length during the site selection process. There is always a credibility problem when design, implementation and regulation are carried out by the same group.
5. There are certainly a range of hazardous waste management alternatives which should be presented publicly as options.

GENERAL POINTS

1. A full fledged public consultation program needs to be reinforced by a firm commitment to carry it through until a conclusion is reached, i.e., some form of management plan is in place. Backing off after people have been aroused increases cynicism and diminishes the credibility of the departments.
2. The task of changing public awareness takes a very long time and people may not be quickly disposed to the idea of concentrating on the problem (in establishing storage depots, etc.)
3. The focus should not be upon siting a treatment or disposal facility. It may be more acceptable to place most emphasis upon reducing the size of the problem.
4. The NIMBY syndrome is in part an over-reaction based on fear but also an understandable response to some poor experiences in the past. In recognition of this, hazardous waste management needs to be discussed in terms of the regulatory framework, assignment and discharge of responsibilities, monitoring etc. rather than leaning heavily on technological solutions.
5. Solutions for treatment and disposal will require economic, social and political decisions, as well as technological decisions. The public must be presented with a credible range of options, rather than one "inevitable" plan. Leadership will nevertheless be expected.
6. In asking for support be explicit about what is wanted and why.
7. Make sure that municipal planners and engineers accept and agree with your ideas before you approach council. If these people are not convinced, then council is unlikely to sustain interest in the long term. The support of municipal council is essential to any siting process later on.
8. There needs to be a clear statement as to whether any proposed management strategy will encompass wastes generated outside Nova Scotia. Suspicion tends to be generated by talk of hazardous waste disposal as a new industry with entrepreneurial opportunities. This suggests that Nova Scotia may become the dumping place for other jurisdictions' waste problems.
9. If NSDOE and Environment Canada are both to be involved, activities should be carefully co-ordinated so that the same message is presented.

GENERAL POINTS cont'd.

10. Consideration should be given to involving representatives of other departments (eg. health, transportation) in presentations since many questions and concerns relate to public health and safety.
11. If much effort is to be put into personal approaches (meetings, presentations, etc.) the personality of the presenter becomes a critical element in the equation. Overall the credibility of the program rests very heavily with the way it is presented, the personnel, and the support they can count on.

A3 GENERATORS

It is suggested that potential generators be contacted through the Voluntary Planning manufacturing sector, umbrella organizations, and individual industry associations. The N.S. Research Foundation's field advisory service is another communication link, especially when promoting waste reduction measures.

Voluntary Planning Manufacturing Sector Committee

Reg MacAusland	422-1421
- Chairman	

Gary Croswell	424-5682
- Sector co-ordinator	

The Committee has a membership of approximately 100 secondary manufacturers, organized in five regional segments. These meet approximately four times a year, although special meetings may be held. The regional chairmen also meet twice a year.

Regional Chairmen

Colchester/Pictou/Cumberland	
- Len Perry, Casey Ford	667-3378

Halifax/Dartmouth	
- Reg MacAusland, L.E. Shaw Ltd.	422-1421

South Shore	
- Jim Sapp, Astoria Beverage Co.	354-3122

Annapolis Valley	
- Sandy Archibald, Britex Ltd.	665-4466

Cape Breton	
- Bob Ojolic, Ojolic Associates	539-8075

John Vienot
Executive Director
5525 Artillery Place
Halifax, N.S.

422-4477

Peter O'Brien
Suite 819
1888 Brunswick Street
Halifax, N.S.

423-7813

There are numerous individual associations for manufacturing, service and resource industries in Nova Scotia. Two of the main resource industry associations are listed here. For others, contact Gary Croswell, Industry Officer, N.S. Department of Development. 424-5682.

N.S. Federation of Agriculture
- Lester Settle

893-2293

N.S. Forest Products Association
- Lorne Etter
P.O. Box 696, Truro, N.S. B2N 5E5

This service is supported by the National Research Council under the Industrial Research Assistance Program (IRAP). Eight engineers operate out of NSRF, and four out of NRC. Their work is co-ordinated to cover the whole province. They concentrate on smaller industries with less than 200 employees, focussing on technology advancement to improve productivity.

The field representatives have direct contact with individual industries at least once a year. Although waste management problems have not been a large part of their work to date, waste reduction, recycling, reuse and recovery certainly fall within their mandate.

GENERATORS cont'd.

Gerry Archibald
Director, Field Advisory Service
N.S. Research Foundation
P.O. Box 790
Dartmouth, N.S.
B2Y 3Z7

424-8670

A4 LABOUR

The Nova Scotia Federation of Labour would be the obvious route to use, beginning with contact with the Executive. The Federation can also co-ordinate consultation meetings with the labour councils throughout the province. Where matters of federal concern are involved the Federation would contact the Canadian Labour Congress.

N.S. Federation of Labour

Gerald Yetman	454-6735
President	
Suite 212	
3700 Kempt Road	
Halifax, N.S.	

Occupational Health and Safety
Subcommittee

- Rick Clarke	455-7239
- Leo McKay	

[The committee has a membership of 3-5 people and co-ordinates an annual conference which may draw 50-60 people, many of whom will belong to health and safety committees of individual locals.]

Area Vice-Presidents

[Could co-ordinate activities with labour councils]

- Paul Landry, Cumberland Area	667-7921
- Austin Lindsay, Colchester Area	893-2844
- Lawrence Wilness, South Shore	634-8571
- Gwen Wolfe, Halifax	425-3521
- Fran Soboda, New Glasgow/ Antigonish/Guysborough Area	755-1392
- Garnet Parker, Valley Area	427-9257
- Dan Morrison, Cape Breton	562-1865

A5 MUNICIPALITIES

City of Dartmouth

Mayor: Daniel Brownlow
Clerk-Treasurer: Bruce Smith

P.O. Box 817
Dartmouth, N.S.
B2Y 3Z3

421-2111

Town of Amherst

Mayor: Ray Emery
Chief Admin. Officer: Vernon Parrett

P.O. Box 516
Amherst, N.S.
B4H 4A1

667-9141

City of Halifax

Mayor: Ron Wallace
Clerk-Treasurer: Gladys
Blennerhasset

P.O. Box 1749
Halifax, N.S.
B3J 3A5

426-6430

Town of Annapolis Royal

Mayor: Daurene Lewis
Clerk-Treasurer: Douglas Souchen

P.O. Box 310
Annapolis Royal, N.S.
B0S 1A0

532-2043

City of Sydney

Mayor: Manning MacDonald
Clerk-Treasurer: Paul Roach

P.O. Box 730
Sydney, N.S.
B1P 6H7

539-0940

Town of Antigonish

Mayor: Colin Chisholm
Clerk-Treasurer: Stan MacLellan

274 Main Street
Antigonish, N.S.
B2G 2C4

863-1312

MUNICIPALITIES cont'd.

Town of Bedford

Mayor: Keith Roberts
Chief Admin. Officer:
Dan English

Suite 400
1496 Bedford Highway
Bedford, N.S.
B4A 1E5

835-9936

Town of Berwick

Mayor: Samuel Hayden
Clerk-Treasurer: Edwin
Jones

P.O. Box 130
Berwick, N.S.
BOP 1E0

538-3657

Town of Bridgetown

Mayor: J. Roy MacIsaac
Clerk-Treasurer: William
Hamilton

P.O. Box 609
Bridgetown, N.S.
BOS 1C0

665-4637

Town of Bridgewater

Mayor: Harry Cook
Clerk-Treasurer: William Hebb

P.O. Box 9
Bridgewater, N.S.
B4V 2W7

543-4651

Town of Canso

Mayor: Raymond White
Clerk-Treasurer: M.E. MacDougall

P.O. Box 189
Canso, N.S.
BOH 1H0

366-2525

Town of Clark's Harbour

Mayor: Michael Nickerson
Clerk-Treasurer: Hattie Nickerson

P.O. Box 160
Clark's Harbour, N.S.
BOW 1P0

745-2390

Town of Digby

Mayor: William Ganong
Clerk-Treasurer: James Wheelhouse

P.O. Box 579
Digby, N.S.
BOV 1A0

245-4769

MUNICIPALITIES cont'd.

Town of Dominion

Mayor: Robert McVeigh
Clerk-Treasurer:

Commercial Street
Dominion, N.S.
BOA 1E0

849-6556

Town of Liverpool

Mayor: Wendell Tidmarsh
Clerk-Treasurer: Shirley Nixon

P.O. Box 500
Liverpool, N.S.
BOT 1K0

354-5701

Town of Glace Bay

Mayor: Bruce Clark
Clerk-Treasurer: Bruce Sterns

Town Hall
5 McKeen Street
Glace Bay, N.S.
B1A 5B9

849-5541

Town of Lockeport

Mayor: Gordon Weddleton
Clerk-Treasurer: A. Hilton Chymist

P.O. Box 189
Lockeport, N.S.
BOT 1L0

656-2216

Town of Hantsport

Mayor: Garnet McDade
Clerk-Treasurer: Joseph McGinn

P.O. Box 399
Hantsport, N.S.
BOP 1P0

684-3211

Town of Louisbourg

Mayor: Harvey Lewis
Clerk-Treasurer: Elaine MacPherson

P.O. Box 88
Louisbourg, N.S.
BOA 1M0

733-2014

Town of Kentville

Mayor: Wendell Phinney
Town Administrator: Donald
Hardy

P.O. Box 218
Kentville, N.S.
B4N 3W4

678-2107

Town of Lunenburg

Mayor: D. Laurence Mawhinney
Clerk-Treasurer: James Wentzell

P.O. Box 129
Lunenburg, N.S.
BOJ 2C0

634-4410

MUNICIPALITIES cont'd.

Town of Mahone Bay

Mayor: Victor Dyer
Clerk-Treasurer: Kyle Hiltz

P.O. Box 239
Mahone Bay, N.S.
BOJ 2E0

624-8327

Town of New Waterford

Mayor: Gerard Marsh
Clerk-Treasurer: Jerry Ryan

3371 Plummer Avenue
New Waterford, N.S.
B1H 1Y8

862-6401

Town of Middleton

Mayor: Ken Clark
Clerk-Treasurer: Earl Bennett

P.O. Box 340
Middleton, N.S.
BOS 1P0

825-4841

Town of North Sydney

Mayor: David MacDonald
Clerk-Treasurer: Earl Snow

P.O. Box 370
North Sydney, N.S.
B2A 3M4

794-7213

Town of Mulgrave

Mayor: Allison England
Chief Admin. Officer: Harry
MacFarlane

P.O. Box 129
Mulgrave, N.S.
BOE 2G0

747-2243

Town of Oxford

Mayor: Freeman Porteous
Clerk-Treasurer: H.M. McCormack

P.O. Box 338
Oxford, N.S.
BOM 1P0

447-2170

Town of New Glasgow

Mayor: M.A. Harquail
Clerk-Treasurer: Hiram Aikens

P.O. Box 7
New Glasgow, N.S.
B2H 5E1

752-4278

Town of Parrsboro

Mayor: Jack Boyd
Clerk-Treasurer: Ashley Brown

P.O. Box 400
Parrsboro, N.S.
BOM 1S0

254-2036

MUNICIPALITIES cont'd.

Town of Pictou

Mayor: Ernest Jordan
Clerk-Treasurer: David Steele

P.O. Box 640
Pictou, N.S.
BOK 1H0

485-4372

Town of Stellarton

Mayor: Ron Marks
Clerk-Treasurer: Adrian Pearson

P.O. Box 2200
Stellarton, N.S.
BOK 1S0

752-2114

Town of Port Hawkesbury

Mayor: Almon Chisholm
Clerk-Treasurer: Colin
MacDonald

P.O. Box 10
Port Hawkesbury, N.S.
BOE 2V0

625-2746

Town of Stewiacke

Mayor: Richard Steeves
Clerk-Treasurer: Ioan Astle

P.O. Box 8
Stewiacke, N.S.
BON 2J0

378-2231

Town of Shelburne

Mayor: William Cox
Clerk-Treasurer: Wilmot Hardy

P.O. Box 670
Shelburne, N.S.
BOT 1W0

875-2991

Town of Sydney Mines

Mayor: Jack MacKay
Clerk-Treasurer: Lois Gordon

P.O. Box 100
Sydney Mines, N.S.
B1V 2L5

736-6226

Town of Springhill

Mayor: W.H. Mont
Clerk-Treasurer: Douglas
Maddison

P.O. Box 1000
Springhill, N.S.
BOM 1X0

597-3751

Town of Trenton

Mayor: Barry Trenholm
Clerk-Treasurer: Robin Campbell

P.O. Box 328
Trenton, N.S.
BOK 1X0

752-5311

MUNICIPALITIES cont'd.

Town of Truro

Mayor: Douglas Carter
Clerk-Treasurer: Dave Gilroy

P.O. Box 427
Truro, N.S.
B2N 5C5

895-4484

Town of Yarmouth

Mayor: Marjorie McEachern
Clerk-Treasurer: Katheryn Moses

Court House
Main Street
Yarmouth, N.S.
B5A 1G3

742-2521

Town of Westville

Mayor: Walter Duggan
Clerk-Treasurer: Clyde Purvis

P.O. Box 923
Westville, N.S.
B0K 2A0

Municipality of the County of
Annapolis

Warden: Robert Sanford
Clerk-Treasurer: Ronald Grant

P.O. Box 100
Annapolis Royal, N.S.
B0S 1A0

532-2331

Town of Windsor

Mayor: Earle Hood
Chief Admin. Officer:
Lawrence Armstrong

P.O. Box 158
Windsor, N.S.
B0N 2T0

798-2275

Municipality of the County of
Antigonish

Warden: Angus Macquarrie
Clerk-Treasurer: Alan Bond

P.O. Box 598
Antigonish, N.S.
B2G 2H5

863-1117

Town of Wolfville

Mayor: William Kenny Jr.
Clerk-Treasurer: Roy Thomson

P.O. Box 418
Wolfville, N.S.
B0P 1X0

542-3037

MUNICIPALITIES cont'd.

Municipality of the District
of Argyle

Warden: Patrick Murphy
Clerk-Treasurer: J.P. Doucet

P.O. Box 10
Tusket, Yarmouth Co.
BOW 3M0

648-2311

Municipality of the District
of Chester

Warden: Stanley Melvin
Clerk-Treasurer: Barry Lenihan

P.O. Box 396
Chester, N.S.
BOJ 1J0

275-3554

Municipality of the District
of Barrington

Warden: Tony Perry
Clerk-Treasurer: J.R. Fry

P.O. Box 100
Barrington, N.S.
BOW 1E0

637-2015

Municipality of the District
of Clare

Warden: Paul Comeau
Clerk-Treasurer: Delphis Comeau

P.O. Box 458
Little Brook
Digby County, N.S.
BOW 1Z0

769-2031

Municipality of the County
of Cape Breton

Warden: Joe Wadden
Clerk-Treasurer: J.E.
MacEachern

Court House
Crescent Street
Sydney, N.S.
B1S 2Z7

564-5541

Municipality of the County of
Colchester

Warden: Laurence Nason
Clerk-Treasurer: Gordon Creelman

P.O. Box 697
Truro, N.S.
B2N 5E7

895-1501

MUNICIPALITIES cont'd.

Municipality of the County
of Cumberland

Warden: Ira Drysdale
Chief Admin. Officer: F.A.
Harrison

P.O. Box 428
Amherst, N.S.
B4H 3Z9

Municipality of the County of
Halifax

Warden: Arthur MacKenzie
Chief Admin. Officer: Ken Meech

P.O. Box 300
Armdale, N.S.
B3L 4K3

477-5641

Municipality of the District
of Digby

Warden: Wilfred Swift
Clerk-Treasurer: W.L. McMillan

P.O. Box 429
Digby, N.S.
BOV 1A0

245-4777

Municipality of the District of
Hants, East

Warden: James Snow
Clerk-Treasurer: Neville Glover

P.O. Box 190
Shubenacadie, N.S.
BON 2H0

758-2299

Municipality of the District
of Guysborough

Warden: Valerie Rhynold
Clerk-Treasurer: Cheryl Tynski

P.O. Box 79
Guysborough, N.S.
BOH 1N0

533-3705

Municipality of the District of
Hants, West

Warden: Stanton Sanford
Clerk-Treasurer: Roy Haley

P.O. Box 344
Windsor, N.S.
BON 2T0

798-8391

MUNICIPALITIES cont'd.

Municipality of the County
of Inverness

Warden: Walter Moore
Clerk-Treasurer: A.A. Murray

P.O. Box 179
Port Hood, N.S.
BOE 2W0

787-2274

Municipality of the County of
Pictou

Warden: Kenneth Parker
Clerk-Treasurer: James Clattenburg

P.O. Box 910
Pictou, N.S.
BOK 1H0

485-4311

Municipality of the County
of Kings

Warden: H.L. Beals
Chief Admin. Officer: Rick
Ramsay

P.O. Box 100
Kentville, N.S.
B4N 3W3

678-6141

Municipality of the County of
Queens

Warden: Stanley Smith
Chief Admin. Officer: L.D.
Robertson

P.O. Box 1264
Liverpool, N.S.
BOT 1K0

354-3453

Municipality of the District
of Lunenburg

Warden: Lee Nauss
Clerk-Treasurer: D.E. Steele

P.O. Box 200
Bridgewater, N.S.
B4V 2W8

543-8181

Municipality of the County of
Richmond

Warden: Gordon Samson
Clerk-Treasurer: Louis Digout

P.O. Box 120
Arichat, N.S.
BOE 1A0

226-2400

MUNICIPALITIES cont'd.

Municipality of the District
of Shelburne

Warden: Elmer Nickerson
Clerk-Treasurer: Alan Merritt

P.O. Box 280
Shelburne, N.S.
BOT 1W0

875-3083

Municipality of the District
of Yarmouth

Warden: Daniel Stanton
Clerk-Treasurer: William Scott

P.O. Box 152
Yarmouth, N.S.
B5A 4B2

742-7159

Municipality of the District
of St. Mary's

Warden: Edison Sutherland
Clerk-Treasurer: Helen MacDonald

P.O. Box 276
Sherbrooke, N.S.
BOJ 3C0

522-2049

Municipality of the County
of Victoria

Warden: Alex Capstick
Clerk-Treasurer: Mabel
MacEachern

P.O. Box 370
Baddeck, N.S.
BOE 1B0

295-3231

MUNICIPALITIES cont'd.

Local Planning Directors and Agencies

Annapolis District Planning Commission

[Annapolis Royal, Annapolis County, Bridgetown, Middleton]

Kendall Reeves
Director of Planning
P.O. Box 495
Annapolis Royal, N.S.
B0S 1A0

532-2351

Lunenburg County District Planning Commission

[Bridgewater, Lunenburg Co., Chester]

Mr. Peter Oickle
Director of Planning
P.O. Box 341
Bridgewater, Nova Scotia
B4V 2W9

543-8244

Cape Breton Metropolitan Planning Commission

[Sydney, Dominion, Louisburg, New Waterford, N. Sydney, Sydney Mines, Cape Breton C. Glace Bay]

Mr. Doug Foster
Director of Planning
P.O. Box 1071
Sydney, Nova Scotia
B1P 6J7

564-4468

Pictou County District Planning Commission

[New Glasgow, Pictou T., Stellarton, Trenton, Pictou Co.]

Mr. Rick Spanik
Director of Planning
P.O. Box 2500
Stellarton, Nova Scotia
B0K 1S0

755-1390

Cumberland District Planning Commission

[Amherst, Parrsboro, Springhill, Cumberland Co.]

Mr. Jens Jensen, P. Eng.
Executive Director
P.O. 549
Amherst, N.S.
B4H 3Y6

667-5141

Louisbourg District Planning and Development Commission

Mr. Harold Verge
P.O. Box 8
Louisbourg, Nova Scotia
B0A 1M0

733-2996

MUNICIPALITIES cont'd.

Windsor-West Hants Joint Planning Advisory Committee [Windsor, Hants West]

Mr. Brian Malone
Director of Planning
P.O. Box 2230
Windsor, Nova Scotia
BON 2T0

798-8393

Metropolitan Area Planning Commission (MAPC)

Mr. Mort Jackson
Executive Secretary
5077 George Street
(Box 505)
Halifax, Nova Scotia
B3J 1M3

429-6947

City of Dartmouth

Mr. Donald A. Bayer
Director of Planning
P.O. Box 817
Dartmouth, N.S.
B2Y 3Z3

421-2274

City of Halifax

Mr. Richard Matthews
Director of Planning
P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5

421-6509

Municipality of Annapolis County

Mr. N. Lasch
Planner
Planning Department
P.O. Box 100
Annapolis Royal, N.S.
BOS 1A0

532-2331

Municipality of Colchester County

Mr. Stewart Bishop
Director of Planning and Development
P.O. Box 697
Truro, Nova Scotia
B2N 5E7

895-1501

Municipality of the County of Halifax

Mr. Keith Birch
Chief of Planning & Dev.
P.O. Box 300
Armdale,
Halifax, Nova Scotia
B3L 4K3

477-5641

Municipality of East Hants

Mr. Brad Hodgins
Planning Coordinator
P.O. Box 190
Shubenacadie, N.S.
BON 2H0

758-2299

MUNICIPALITIES cont'd.

Municipality of Kings County

Mr. R.G. Elliot
Director of Planning and
Development
P.O. Box 100
Kentville, Nova Scotia
B4N 3W3

678-6141

Town of Truro

Mr. Peter Nelson
Planner
P.O. Box 427
Truro, Nova Scotia
B2N 5C5

895-1148

Municipality of Queens County

Madelyn LeMay
Planner
P.O. Box 1264
Liverpool, Nova Scotia
BOT 1K0

354-5741

Town of Liverpool

Mr. Ken Smith
P.O. Box 550
Liverpool, Nova Scotia
BOT 1K0

Yarmouth, Argyle, Barrington
District Planning Commission

Mr. Gary Saunders
Planner
P.O. Box 10
Tusket, Yarmouth County
Nova Scotia
BOW 3M0

648-3166

Town of Bedford

Mr. Barry Zwicker
Director of Planning
Suite 400, 1496 Bedford Highway
Bedford, Nova Scotia
B4A 1E5

835-9936

Town of Kentville

Mr. Wayne Gibbons
Director of Planning
P.O. Box 218
Kentville, Nova Scotia
B4N 3W4

678-2107

MUNICIPALITIES cont'd.

Fire Departments

A list of the local fire departments (approximately 300) is available from the Provincial Fire Marshall's Office.

Provincial Fire Marshall

Department of Labour and Manpower
Office of the Fire Marshall
P.O. Box 697
Halifax, N.S.
B3J 2T8

424-5721

A quarterly bulletin (The Fire Marshall's Bulletin) is distributed to all departments.

Chief Fire Officers Association of Nova Scotia

President: Chief Gerald Wood 542-3665

The Association holds an annual conference for its members.

County Organizations

Firefighters are also organized on a county basis, eg., the Pictou Firefighters' Association. A list is available from the Provincial Fire Marshall.

A6 ADVISORY GROUPS

Voluntary Planning Sector Committees

Voluntary Planning is a province-wide voluntary organization made up of non-government individuals, firms and groups. The objectives of the organization are to remove barriers to development; to aid the identification of opportunities for new and expanded growth; and to provide the means for the private sector to be involved in a continuing program of economic and social development.

Voluntary Planning has several sector committees:

Agriculture	Manufacturing
Christmas Tree Council	Land Resource
Construction	Tourism
Energy	Mining
Fisheries	Taxation
Forestry	Transportation
Human Resources	Voluntary Associations for community development

Each sector committee has a co-ordinator. The Voluntary Planning Board is composed of sector and council chairmen plus other representatives of business and labour.

In terms of developing a hazardous waste public consultation program, the sectors with the most direct interest would be:

Manufacturing:
(see Appendix A-3)

Land Resources:

Chairman: Hugh Fairn
Co-ordinator: John MacGregor (Voluntary Planning)
No. of Members: 32

Transportation:

Chairman: Mr. G. Martin
Co-ordinator: Mr. P.L. Giffin (Voluntary Planning)
No. of Members: 24

Agriculture:

Chairman: Mr. Dean Hennigar
Co-ordinator: Ms. Peggy Tibbo
No. of Members: 23

ADVISORY GROUPS cont'd.

Forestry:

Chairman: Walter Webber
Co-ordinator: John MacGregor (Voluntary Planning)
No. of Members: 16

Voluntary Associations for Community Development (VACD)

Chairman: Mr. Lester Settle
Co-ordinator: Mr. John MacGregor

Subcommittee: Economic Development Associations of Nova Scotia (EDANS)

Chairman: Mr. W.A. MacCulloch
No. of Members: 38 industrial and development commissions

Environmental Control Council

The Environmental Control Council is a 12-15 member citizen advisory board with regional representation. The council was established under the provisions of the Environmental Protection Act; it is supported by an Executive Secretary and a research co-ordinator and includes the Deputy Minister of the Environment as an ex-officio member.

The council has board responsibilities to advise the Minister on environmental policies, programs, and standards for the presentation and protection of the environment. As part of the advisory function, Council is empowered to seek public opinion on specific issues. This may include the publication of environmental information, the establishment of citizen committees, the calling of public meetings or the convening of public hearings.

Members represent the following disciplines: health, law, engineering, industry, labour, municipalities, conservation or ecology groups, agriculture, academics, forestry and fisheries.

Watershed Advisory Groups

Several citizens watershed advisory groups have been established in the province to advise municipal or provincial government bodies on environmental protection issues arising from watershed development activities.

ADVISORY GROUPS cont'd.

Bridgeport Basin Committee
(Cape Breton)

Chairman: Charles Musial
Advisory to: Environmental Control Council

Petite Riviere Watershed Advisory Group

Chairman: Bill Saunders
Advisory to: Province of Nova Scotia
Town of Bridgewater
Lunenburg Municipality
Bridgewater Public Service Commission

Queens County Medway-Mersey Watershed Advisory Group

Chairman: Clyde Corbett
Advisory to: Province of Nova Scotia

Dartmouth Lakes Advisory Board

Chairperson: Audrey Manzer
Advisory to: Dartmouth City Council

Shubenacadie Lakes Advisory Board

Chairman: John Bottomley
Advisory to: Halifax County Council

Sackville Rivers Advisory Board

Chairperson: Anne Merritt
Advisory to: Halifax County Council

A7 ENVIRONMENTAL AND CONSERVATION GROUPS

There is no one umbrella organization for environmental groups in Nova Scotia. The Atlantic Provinces Environmental Network (originally the ENGO network) loosely serves this function for the four Atlantic Provinces, although it basically functions only to co-ordinate the regional input into the national consultation meetings with Environment Canada. There are currently approximately 60 Nova Scotia groups on their mailing list.

Atlantic Provinces Environmental Network

Nova Scotia Representative on the Steering Committee

- Maureen Vine 469-7809
CPAC

To contact interested environmentalists it is suggested that letters be sent to the groups on Environment Canada's list, and that notices be placed, if possible, in the newsletters of the following organizations:

Ecology Action Centre

- Liz Calder 422-4311

Community Planning Association of Canada/Nova Scotia Division

- Joanne Lamey 469-7809

South Shore Environmental Protection Association

- Bob Collicutt 677-2146

A8 PUBLIC INTEREST GROUPS

Health Coalition of Nova Scotia

This coalition has both group and individual members - approximately 30 of each. The interests of the member organizations vary, but certainly some of them would be interested in pursuing environmental health issues. The coalition is entirely volunteer-based and operates with very little money. An annual meeting is organized - this year (1985) in April -

Doug Crossman
Chairman
P.O. Box 1213 North
Halifax, N.S.
B3K 5H4

421-8711

Health Coalition of Cape Breton

This organization is affiliated to the Health Coalition of Nova Scotia and has a very active membership of approximately 30 to 40.

Al Maroun
P.O. Box 5
Sydney, N.S.
B1T 6G9

Consumer Information Centre

The Centre currently operates out of the Institute of Public Affairs, Dalhousie University, and undertakes consumer education. Twice a year, in the magazine Canadian Consumer, The Centre co-ordinates a regional newsletter section which could be a useful channel for information on hazardous wastes.

Sharon Freeman
Consumer Information Centre
Institute of Public Affairs
Dalhousie University
Halifax, N.S.

421-1211

W.I.N.S. has already been involved in environmental education programs, focussing on litter and pollution. Notice of Environment Canada's slide show has been sent to each branch. According to the Executive Director the best approach would be to provide information to and meet with the provincial board, which meets three times a year in February, July and September. An annual convention is held in July with an attendance of approximately 150-200.

Shirley Hennigar
Provincial Chairperson

W.I.N.S.
Cumming Hall
N.S. Agricultural College
Truro, N.S. B2N 5E3

Representatives of local branches of the main service clubs are listed below.

Kinsmen - Halifax
Brian Chambers 479-3422

Kiwanis - Halifax
Frank Nicks 443-0235

Lions Club - Armdale/Fairview/Rockingham
John Rusk 826-7143

Rotary Club - Halifax
Robert Weld 422-9877

A9 HAZARDOUS WASTE HANDBOOK

Handbooks for citizens and local government officials have been prepared in a number of areas. Examples include:

Clark-McGlennon Associates, 1980

Criteria for evaluating sites for hazardous waste management. 49p.

A decision guide for siting acceptable hazardous waste facilities in New England. 86p.

An introduction to facilities for hazardous waste management. 57p.

Negotiating to protect your interests. 47p.

[A series of publications prepared for the New England Regional Commission.]

The Conservation Foundation, 1983.

Siting hazardous waste management facilities: a handbook. 71p.

[A U.S. publication prepared by a committee with members representing private citizens, environmental and public interest groups, trade associations, industries, and state government.]

League of Women Voters of Massachusetts, 1980.

Hazardous Waste Management. 34p.

[Basic information on the problem in Massachusetts including information and ideas for a local hazardous waste program using community co-ordinators.]

HAZARDOUS WASTE HANDBOOK cont'd.

Maine Association of Conservation Commissions, no date.

Watching our wastes: a citizen's guide to hazardous waste in Northern New England. 69p.

[Brief but complete overview.]

Sobetzer, John G. and Lynn A. Carson, 1982.

Hazardous management in Michigan: a guide for local government and citizens. 108p.

[An interpretation of Michigan's Hazardous Waste Management Act.]

Texas Department of Water Resources, 1984.

The Keystone siting process handbook - a new approach to siting hazardous waste management facilities. 46p.

[Suggests a process, using a local review committee to prepare a report on community concerns, which would occur outside of the established regulatory framework before a developer applies for the necessary permits.]

U.S. Environmental Protection Agency, 1977.

State decision-makers guide for hazardous waste management. 103p.

[Somewhat dated, but a good overview of roles and responsibilities.]

A10 INDUSTRY INFORMATION BULLETIN

The Canadian Waste Materials Exchange circulates a bulletin listing materials available for sale or exchange.

Canadian Waste Materials Exchange

Ontario Research Foundation (416) 822-4111
Sheridan Park Research Community
Mississauga, Ontario
L5K 1B3

Annual subscription: \$25

As part of a community-based project to reduce industrial waste generation in the Region of Waterloo, an industry newsletter was circulated. A description of this part of the project and a sample newsletter is included in this appendix.

Extract from:

Resource Integration Systems, 1984

Industrial Waste Prevention: An Assessment and Demonstration
in the Region of Waterloo

Waterloo Industrial Waste Management Newsletter. The eight-page Newsletter featured articles of direct relevance to industry. Examples of coverage include a three-part series on government financial and other incentives to encouraging improved industrial waste management, proposed changes in current provincial industrial waste management regulations and an on-going series concerning specific issues in the industrial waste management field. In addition, articles local to the Region appeared. Examples include a feature on industrial recycling opportunities in the Region, on-going profiles of innovative waste recovery/management initiatives taken by local companies and details of the Waterloo Waste Exchange. Input was provided by both municipal and industry officials; the local nature of the Newsletter was further enhanced by using the Region's colours as front and back page borders.

The newsletter could be tied into the working sessions to address specific concerns of a particular industry sector. This helped ensure that the type of information carried in the Newsletter reflected the needs of industry.

The Waterloo Industrial Waste Management Newsletter

NEW WASTE EXCHANGE COMES TO REGION

The Region of Waterloo will be the first municipality in Canada to have its own Waste Exchange. The Exchange is just one of a number of ways in which the Region of Waterloo will be working with industry during the Industrial Waste Management Program to achieve better industrial waste management for the community.

Starting April 11, 1983, regional industry will have the opportunity to buy, sell or simply transfer for without purchase costs, waste materials as material commodities. Instead of having to dispose of your wastes, often at significant cost, you can offer them to other industries for use as raw materials. The waste generator saves on disposal costs, the recipient saves on raw material costs. Everybody wins.

WHAT IS A WASTE EXCHANGE?

Just what it says! It's a place where one company's process and other waste can be offered for sale or transfer to another company. In Canada, the Canadian Waste Materials Exchange (CWME) was started in 1977. To date, it has been responsible for the exchange of materials with a replacement value estimated at \$5.6 million. Materials advertised range from 4 cubic yards per week of unwanted popcorn and 200 lbs. per week of unwanted putty to 10,000 gallons per year of hydrochloric acid solution and 125 lbs. of pure copper sulphate crystals. The CWME advertises nationally. In the U.S. there are several waste exchanges operating on a regional basis and in Germany it is mandatory for manufacturing industry to belong to the national waste exchange in that country.

HOW DOES THE WATERLOO WASTE EXCHANGE WORK?

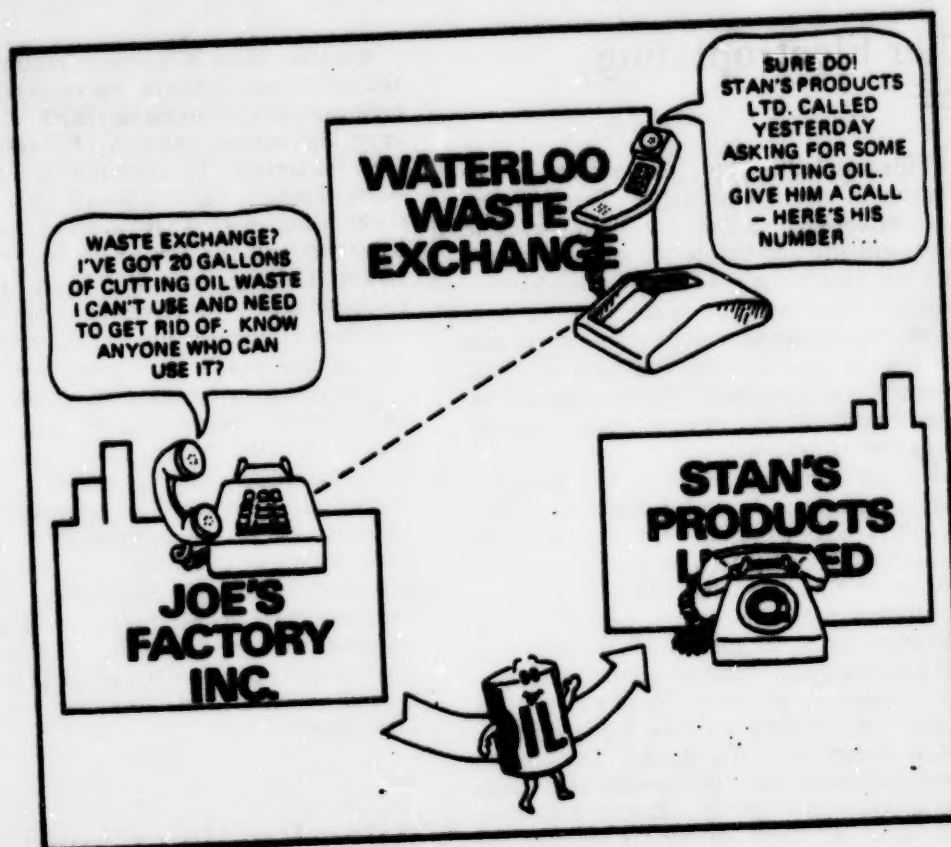
Whether you want to advertise waste materials available for sale or transfer, or materials that you need, using the Waterloo Waste Exchange takes only four easy steps:

To advertise waste "materials available" for sale or transfer:

- STEP 1** • Determine the kind of liquid and solid wastes you generate. You'd be surprised by the things that may be "garbage" to you, but may be useful to someone else.
- STEP 2** • Determine the quantity of these wastes that you generate and the frequency at which you generate them. Whether you have only a little, or whether you have a lot, somebody may be able to use them.
- STEP 3** • Decide on whether you want to sell your waste materials or transfer them to a user free of charge. Even if you transfer them free of charge you win two ways: first, you save on your normal disposal costs and second, you may create a permanent market for your wastes — a market that may be willing to pay for your materials later on, once they have proven their value.
- STEP 4** • Phone the Waste Exchange at 885-9500 (in Galt, 653-2511, ext. 500) and give the staff there details of your materials from STEP 1 and STEP 2 above. You don't need to give details from STEP 3 to the Exchange — use these when negotiating a waste transaction.

Once a waste is recorded at the Waste Exchange it will be included in the Exchange Bulletin. The Bulletin will list all waste materials offered for sale or transfer

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in the Region and will be distributed monthly to all Regional industry. Potential users of your waste materials will therefore become aware that you have a material that they can use. To contact the advertiser, the potential user will call the Waste Exchange and identify the material they are interested in and leave their name and phone number. The enquiry will then be passed on to the advertiser together with name and phone number so that the advertiser can decide whether the enquiry is bonafide or not. It is then up to the advertiser to contact the enquirer to negotiate the transfer of the material.

To advertise (your) "materials wanted":

STEP 1 • Determine the types of materials you need. Whether you need a chemical solution or cardboard cartons, somebody's waste material may be just what you're looking for!

STEP 2 • Determine the quantity of materials you need. Whether you need a lot, or only a

little, somebody may be able to supply you with what you need at a fraction of normal purchase cost – or even free!

STEP 3 • Decide on the basic conditions under which you'll negotiate a transaction. Remember, even though the material you obtain may be someone's "waste" that would normally require disposal, that material still represents a cost to the waste generator and they may expect some payment for the material. Even if you don't obtain it free, however, you'll probably be able to purchase a material significantly below normal market cost.

STEP 4 • Phone the Waste Exchange at 885-9500 (in Galt, 653-2571, ext. 500) and give the staff there details of STEP 1 and STEP 2 above. You don't need to give details from STEP 3 to the Exchange – use these when contacting potential suppliers.

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Rauscher Electroplating Limited

Rauscher Electroplating Ltd. is located in the Hespeler district of north Cambridge. The company has been long established in the city, dating back to 1968 at its present site and before that at a site on the Grand River in Cambridge. As with Allen-Bradley Canada, Rauscher Electroplating found that old ways of disposing of electroplating waste became dated and new solutions were needed. That was back in 1968, and the Ontario Water Resources Commission (a forerunner of the Ontario Ministry of Environment) agreed that something should be done.

The problem for company president Len Rauscher was information or, at least, lack of it. Back then waste control technology wasn't the industry it is today. He found there weren't many places or people he could turn to in order to find out what the best solutions were to his effluent problems. So, as Len puts it, he had to experiment by "trial and error". After several years he had a pretty good pollution control system — but not good enough, so he finally found a consultant who could put the finishing touches to the system.

Now, Len is happy with the results. The Region tests his sewer discharge every two weeks and hands him a report of their findings. If there are problems, Len is made aware of them so he can correct the situation. What's more, his filter press does away with high-moisture content sludge that would require costly disposal. Instead, he has a sludge dry and stable enough to be acceptable at the Regional landfill site.

And what's in store in the future? Well, Len plans to put some chrome recovery technology on-stream this summer and to recycle waste water back through the plant. And this, he figures, will give him an attractive pay-back.

J.M. Schneider Inc.

J.M. Schneider Inc. is one of the largest companies in the Region of Waterloo, so it comes as no surprise that coping with waste materials takes considerable time and resources and necessitates many different technologies.

Luckily for J.M.S., some of the waste materials from the processing of their primary products can be re-processed into secondary products and sold profitably. The way this is done is through rendering suitable wastes from their meat packing processes into animal feed. For farmers, this leads to healthier animals — for J.M.S. it leads to a healthier profit margin!

Another potentially serious problem for Schneider's, and other meat packers, are suspended solids and high biological oxygen demand (BOD) effluents. These can upset the natural balances of creeks and rivers unless they are treated. To combat this, J.M.S. have installed water flotation technology to treat effluents prior to sewer discharge. They worked with the City of Kitchener and the Region of Waterloo when they installed this system, and were pleased with the co-operation they received from both. Now the Region monitors effluents regularly, and co-operation between the company and the municipality remains good.

The company realizes that controlling waste and caring for the environment go hand in hand. Currently, they're thinking of expanding their waste water treatment systems, and even of installing scrubbers to control air pollution. The scrubbers will be expensive to install — in the million dollar range — and the company doesn't even have air pollution problems. So why put them in? Spokesman Murray Gordanier explains: "As we get bigger we'll have air pollution problems sooner or later. The best way to take care of a problem is not to let the problem happen." And with a professional attitude like that, we can all breathe a little easier!

Allen-Bradley Canada Ltd.

Allen-Bradley Canada have a large plant in Cambridge. Based in the U.S., the company has a long history in the city manufacturing electrical motor control equipment. The business activities of the company entail electroplating components of their products in-house. They have cadmium, zinc, tin and silver electroplating lines all of which have performed satisfactorily over the years. Like a lot of electroplating shops, however, they are faced with a crucial question: What is the best way to control waste effluents?

For Allen-Bradley Canada Ltd. this is a difficult — and expensive — question to answer. Up until the mid-1970's, their electroplating effluents were held in lagoons on their property. At that time, however, increased environmental awareness led them to realize that this disposal method was no longer adequate. Working with the Region, they decided on waste control technology to precipitate the hazardous heavy metals that contaminate electroplating wastes. What's more, they also treat wastes from the paint shop using the same technology.

Now, most effluents are treated before discharge to the sewer. The system isn't the whole answer, though.

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GOVERNMENT PROGRAMS CAN HELP WITH WASTE CONTROL

For the industrial manager, dealing with governments can sometimes be a difficult experience. This can be particularly the case for people trying to locate government programs they may be able to use. For those who have persevered, however, finding the right program can be like finding a gold mine.

This is the first of a series of articles outlining government programs that can be used for the purposes of researching, developing and installing waste control technology. This article outlines federal and joint federal/provincial programs. Future newsletters will feature articles on provincial funding programs and technical information sources. All these programs are funded by your tax dollars – so you should be using them!

Small Business Loans

The federal government will guarantee loans to small businesses to help them improve and modernize equipment. Interest rates are set at only one percent above prime lending rates, so you don't have to be an industrial giant to afford a loan. To qualify, you must be a business whose gross revenues for the fiscal year in which application is made do not exceed \$1.5 million. Could you benefit? Probably – in the 1979/80 fiscal year, the government guaranteed over \$250 million in small business loans! Contact your regular lending institution for more information.

This is only a selection of the various federal and joint federal/provincial programs available to help provide funding for waste control technology. A comprehensive look at all business assistance and incentive programs receiving federal funding is contained in ABC Assistance to Business in Canada, available from the Ministry of State for Economic Development, Ottawa K1A 1E7, or phone (613) 996-4055.

Alternatively, more information on these and other programs is only a phone call away at the Industrial Waste Management Information Centre, dial 885-9500 (In Galt 653-2571 extension 500). Give us a call today!

Accelerated Capital Cost Allowances

Good news here! Any pollution control equipment you install can be written off for tax purposes in only 2 years at 50% per year. That maximizes your tax savings and leaves you with more to invest in other areas of your business. For more information, contact your local Revenue Canada tax office in Kitchener at 579-2230.

Federal Business Development Bank (FBDB)

It is sometimes said of the banking community that the only time they're willing to lend you money is when you already have it. The FBDB exists to provide funding to companies who cannot raise capital on reasonable terms and conditions. If that sounds like your situation, you're in good company – in 1980, the Bank approved 16,571 loans worth more than \$850 million. Most applicants use funds to buy land, buildings or equipment. So if you want to install existing waste management technology and need help with financing, try the FBDB. There's a handy branch in Kitchener at 744-4186.

Research, Development and Demonstration Programs

In addition to minimizing the cost of investments generally, including waste control technology, there are a number of programs geared to providing financing for research, development and demonstration of new technologies. Waste control technology may qualify for assistance under one or more of these programs.

Fellowships and Awards Industrial Research

Maybe you have a great idea as to how improvements can be made at your plant, but you lack the highly

specialized technical personnel to develop the idea. Or maybe you have the personnel, but they're too tied up with other work and projects to spend enough time with your idea. Either way, if you could use some extra highly trained people at your plant, this may be just the program for you.

The Natural Sciences and Engineering Research Council (NSERC) will help you find the personnel you need from among recent graduates of natural sciences and engineering doctoral programs. You can employ these people for up to five years and NSERC will contribute up to \$20,000 per year towards salary expenses for the first three years and up to \$10,000 per year for two more years. All you have to do is employ these people in research, development and innovation activities, including waste management.

If you don't need the highly specialized expertise of a doctoral graduate, but you do need well-trained hands-on people for a short time, why not consider the Undergraduate Industrial Summer Research Awards? These are also administered by NSERC and apply to students in an honours natural sciences or engineering bachelor's program. NSERC will pay up to \$600 per month towards salary expenses while you employ these students in some kind of R&D capacity.

Naturally, both these NSERC programs apply to more than simply waste management and pollution control. But with the growing awareness within industry, of the need for good waste management practices, the waste management field offers a lot of opportunity to use these programs to further improve waste handling and disposal practices. Write for more information to: Natural Sciences and Engineering Research Council, Ottawa K1A 0R6 or phone (613) 993-3659.

Industrial Research Assistance Program (IRAP)

This program is similar to the Industrial Research Fellowship and Awards Program (see above). For companies that need funding to operate research projects, IRAP will pay the salaries of individuals working on an R&D project. In return, the company must undertake the demonstration and commercialization of the research from its own funds. The company, however, retains the rights to the technology. The program is run by the National Research Council, Ottawa K1A 0R6 at (613) 993-0331.

Dollars For Industrial Energy Demonstration Projects

Everyone is concerned about energy costs these days. This program offers you the opportunity to use government money in order to install energy saving systems that will provide you with a pay-back. This means you can use government money and get a return on that money – surely an incentive to lure any businessman!

The program is jointly funded by the federal and provincial governments and you can use it in two ways. Firstly, you can use the program for straightforward energy conservation. Alternatively, you can use it for some alternative energy project of your own which results in lower consumption of conventional energy. This means you can use the program to fund your own energy-from-waste project, for example.

One recently funded project involved the anaerobic digestion of a starchy food industry waste to produce methane for use in-plant. Let your imagination loose

continued on page 6

Let Us Know What You Think . . .

For your convenience we have included in this newsletter a pre-paid business reply envelope for your comments regarding the Waterloo Industrial Waste Management Program. What difficulties are you faced with? How could some level of government improve on current regulations? What sorts of articles in this newsletter would be most useful to you? Or use it to notify the Waste Exchange of you "materials wanted" or "materials needed". Take a couple of minutes to jot down your comments and drop the envelope in the mail. The more comments we get from you, the better we can meet your needs.

Dollars For Industrial Energy Demonstration Projects *continued from page 5*

on ways your company could use its waste materials to generate energy. You may be surprised by the alternatives open to you. Contact your local office of the Ontario Ministry of Industry and Trade to find out more.

Renewable Energy And Conservation Development And Demonstration Program

This federal/provincial cost sharing program makes funding available to undertake projects in the development and demonstration of renewable energy sources and conservation measures. Technologies which provide for the use of industrial wastes as an energy fuel may be eligible for funding under this program. The Department of Energy, Mines and Resources, Ottawa K1A 0E4 at (613) 995-9447 can tell you more.

Development and Demonstration of Resource and Energy Conservation Technology (DRECT) Program

Do you have an idea that would help conserve energy or resources? If you do, you should apply for funding under this program. The federal government will pay up to 50% of the total cost of the project including equipment, buildings, installation, engineering and consulting services.

Recent DRECT funding was obtained for the Kitchener Landfill Gas Utilization Project at the South Ottawa Street Landfill. Within industry, DRECT funds have been used for a wide variety of waste management-related projects. Examples include an earthworm-enhanced composting project using organic wastes, a new cryogenic technology to shred waste plastic and rubber so they can be recycled, new cullet treatment technology to enhance glass recycling and the use of fish wastes as a heating fuel.

Want to know more? Get in touch with the Environmental Protection Service (Ontario Region), 7th Floor, 25 St. Clair Avenue East, Toronto M4T 1M2 or phone (416) 966-5840.

HOW DOES THE WATERLOO WASTE EXCHANGE WORK? *continued from page 2*

The "materials wanted" information will be included in the Exchange Bulletin. Potential suppliers will then phone the Waste Exchange to leave their name and phone number. This information will be passed on to the "materials wanted" advertiser to decide whether the enquiry is bonafide or not and it is up to the advertiser to contact the potential supplier in order to negotiate the transaction.

Whether you're advertising "material available" or "materials wanted" you can be included in the Canada-wide CWME as well as the local Exchange Bulletin. Just follow the steps above and when you phone the Waste Exchange ask that your "material available" or "material needed" be included on the CWME. That way you'll have nation-wide possibilities to avoid disposal costs for waste materials and find alternative suppliers for material needs. The CWME works in exactly the same way as the Waterloo Waste Exchange.

Finally, the Waste Exchange should be your first call when you have to act fast. All "materials available" and "materials wanted" will be kept on active file right at the Exchange. If you have to move a waste material in a hurry, phone the Exchange — there may be someone who can take the material off your hands right away and save you disposal costs in doing so. Likewise, if you need a material fast, the Exchange will be able to tell you if someone else has materials that meet your requirements, and at less cost than you'd normally pay — maybe even free!

WHY SHOULD I USE THE WASTE EXCHANGE?

Because, quite frankly, you can save yourself money while conserving resources. A few drums of waste material can cost hundreds, even thousands, of dollars to dispose of. If you have your waste materials listed at the Waste Exchange, you may be able to avoid disposal costs and maybe even realise an income from materials that would normally cost you money.

When you purchase materials look to the Exchange listings or phone the Exchange first. Since the alternative for the generator of the wastes is to pay for their disposal, you'll likely be able to obtain useful material at a fraction of normal cost — or at no cost at all!

And one final reason for why you should use the Exchange is that it's free. You can advertise materials available and materials wanted throughout the Region and throughout the country on the CWME. And you can do both at absolutely no cost.

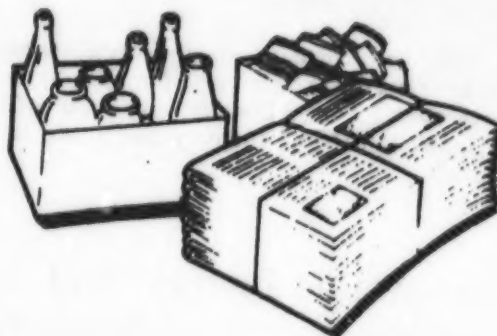
IT'S A GOOD IDEA – BUT WILL IT WORK?

We've already mentioned the CWME and existing exchanges in the U.S. and Germany. These exchanges vary in size, and scope of operation, but all depend on input from industry for their success. The Region of Waterloo Waste Exchange will work if we all make it work. List your "materials available" and "materials wanted" today – call the Waterloo Waste Exchange at the Industrial Waste Management Program Information Centre: 885-9500 (in Galt, 653-2571, ext. 500) and watch for the first issue of the Exchange Bulletin.

A FINAL WORD . . .

Your business is exactly that – your business, not ours or anyone else's. Because of this, the Waterloo Waste Exchange will only pass on enquiries to an advertiser. Under no circumstances will the Exchange be involved in transaction negotiations, nor will it release company names. You'll have no crank callers and no unwelcome visitors. Confidentiality – it's our way of assuring you that your business stays your business.

The Waterloo Waste Exchange – showing once again that we can all benefit from pollution prevention.



ALLEN-BRADLEY CANADA LTD.
continued from page 3

Some solutions and sludges still have to be hauled away for special disposal either in New York State or in Sarnia. But the company is happy that their current system meets or exceeds requirements. The Region tests sewer discharge twice monthly. If there are any problems with sewer discharge, the company wants to know. Spokesman Jeff Renwick explains: "There's a high level of environmental awareness in Allan-Bradley. We're concerned that standards be met".

ONTARIO WASTE MANAGEMENT CORPORATION FINALIZING DISPOSAL SITE(S)

Although industry is being encouraged to reduce, reuse, and recycle all waste materials possible, nobody doubts that waste treatment and disposal facilities are needed. Currently, significant quantities of industrial waste must be sent to the U.S. for treatment/disposal at high cost. In addition, the lack of treatment/disposal facilities in Ontario encourages environmentally unacceptable waste management practices. The trouble is that even after the most rigorous work most people are unlikely to welcome industrial waste facilities to their neighbourhood.

The Ontario Waste Management Corporation (OWMC) was established in 1980 to look for and establish treatment and final disposal sites for "special" industrial waste (i.e. waste that requires treatment

before disposal) in Ontario. This process is being carried out in four phases. The first two phases of the search were concerned with the generation of background data to be used for the selection and sizing of a site. The last two phases, which are currently in progress, are concerned with the finalizing of a specific site or sites and establishing the required facilities.

The OWMC has gone to a lot of trouble to make sure that the public – specialists and non-specialists alike – have a chance to talk with the Corporation about its work. Dr. Donald Chant, OWMC chairman, has even stated publicly: "Never again can we afford to arrive on community doorsteps unannounced". To keep the public informed, the OWMC has invited the public to a series of workshops, meetings and open houses throughout the site selection process.

Information Centre

Industrial Waste Management Information Centre
your one-call phone-call for answers to your questions about industrial waste management in the region. Call the Centre if you need general or specific information, technical know-how, access to the latest developments, or if you just want to offer your opinion on some aspect of industrial waste management. Call us today at 885-9500 (in Galt, 653-2571, 500). The Industrial Waste Management Information Centre - another way we can all benefit from pollution prevention.

Community Special Waste Days

WATERLOO LANDFILL SITE:

Saturday, May 14, 8 a.m. - 4 p.m.

CAMBRIDGE LANDFILL SITE:

Saturday, May 19, 8 a.m. - 4 p.m.

All that old paint, used oil, spent solvent and waste pesticide in your basement poses a potential environmental threat if not disposed of properly. The Region of Waterloo is the first municipality in Canada to sponsor collection of residential special waste. Spring clean your basement this May and bring your residential special waste to the collection points above.

To aid in this program, the Region has obtained the services of a team headed by Resource Integration Systems Ltd., Ontario Research Foundation, Hans Mooij and Associates Ltd. and Proctor and Redfern.

Return address: Information Centre
Waterloo Industrial Waste Management Program
Region of Waterloo Engineering Laboratories
R.R. #31
Cambridge, Ontario
N3H 4R6

A11 MEDIA PROGRAM

To provide journalists with background information and to make contacts, Environment Canada should ask to participate in meetings held by two organizations:

Atlantic Community Newspaper Association

Jane Lashbrook 422-3122
- Executive Director

The Association holds seminars twice a year. The June seminar deals primarily with editorial issues, the January seminar with management concerns. Ms. Lashbrook believes that there would be interest in looking at environmental reporting.

Centre for Investigative Journalism

Valerie Mansour 454-6605
- Local Board Member

The Centre has a national membership of about 400 and a regional membership of about 25. Approximately four regional seminars are held each year. Subjects have included statistics, and the labour beat. Approximately 30 people attend each seminar.

Personal contact is always preferable. Following is a list of the producers for selected local radio and television programs:

<u>CBC Radio</u>	422-8311
Information Morning	- Ian Porter
Radio Noon	- Sue Dexter
Mainstreet	- Ken Wolf
Saturday Morning Show	- Glen Meisner

<u>CBC Television</u>	422-8311
First Edition	- Brian Kienapple
Inquiry	- Terry Fulmer
Land and Sea	- Bob Hutt

<u>ATV</u>	453-4000
Live at Five	- Heather Ryall

A12 SCHOOLS PROGRAM

When considering any form of curriculum development initiative, whether a brand new curriculum unit or resource materials to be used within existing units, it is vital to carry out extensive consultation with both teachers and administrators. Important contacts are as follows:

N.S. Department of Education

Michael Woodford	424-5799
- Chief Director, Public Schools Operations	
Lajeune Naud	424-5745
- Director of Administration, Curriculum Development	
Trueman Layton	424-5927
- Science consultant, currently on sabbatical until September, 1985 and temporarily replaced by Gordon Steeves	
Glenda Redden	424-4209
- Social studies consultant	

N.S. Teachers Union

Ronald J. Morrison	477-5621
- Executive Staff	
NSTU Curriculum Committee	
- Teachers and administrators, approximately six members	
Association of Science Teachers	
- approximately 1000 members	
Social Studies Teachers Association	

SCHOOLS PROGRAM cont'd.

Minister's Advisory Committee on Public School Programs

- New committee about to be appointed to review existing programs and new proposals.
- Representatives from N.S. Department of Education, NSTU, School Board Association and others.

Council of Ministers of Education Canada

- Council of provincial ministers of education in Toronto.

Canadian Learning Materials Resource Centre

Ann Brimer
- Executive Director

424-3413

Federation of Ontario Field Naturalists

- An in-depth industrial waste management kit for high schools is currently being developed with a sales target of 800-1000. The response from schools so far is good.

Individual Schools

- For names of principals of schools around the province [contact with reference to classroom presentations] consult the Official Directory of Schools in Operation 1984/85, available N.S. Government Bookstore.

A13 COMMENTS FROM REVIEWERS

On completing a draft of our final report we sent copies to ten of the people who had been previously interviewed for the study. Some of the comments we received have been incorporated into the text of the final report as corrections. (Errors which remain are the sole responsibility of the authors.) Other comments we would like to share with you here. The extra time given to this project by our reviewers is much appreciated.

Economic Factors

"... cost-benefit reallocation may or may not be "required". There are obviously many economic arrangements which could be put in place to deal with the distribution of costs and benefits involved in any given hazardous waste management scheme. The statement "the costs ... should be included in the cost of production ... as a matter of justice ..." suggests that all other options are clearly inferior, and I am not aware of any evidence that such is the case."

Information

"I was particularly struck by the frequent mention of inadequate or inaccurate information as being a major contributor to public opposition to proposed resolutions to the problem. It would appear that public consultation - supported by early, complete and accurate information - is a necessary step in the achievement of a solution."

"There is no doubt that taking a public relations or selling approach to dealing with governments' public communications is completely inappropriate and essentially dishonest. In this issue, like many others, there can be no justification for anybody obscuring or distorting the facts as they are known, even though information may be imperfect, and there is conversely no reason for the public to expect that, for example, opposition to a management strategy or a particular component in it does not need to be based on defensible and

Information cont'd.

rational arguments. Simply mobilizing a few thousand signatures on a petition is no more meaningful than the kind of evasive baffleb sometimes heard from departmental or corporate public relations officers."

Credibility

"The points respecting the lack of credibility of governments and lack of real opportunity for consultation are well taken and undoubtedly true. It does suggest that government agencies may not be the most appropriate managers of a public consultation program. While the expertise of government departments is certainly necessary, it may be more acceptable to the public if it is presented to some other body as part of the process. This is particularly true in this instance where the environment departments are probably the proponents of any facilities."

"I fully agree with this point, particularly your statement that people become increasingly cynical and hostile if it appears that their reaction to the first contacts results in government agencies freezing in their tracks and proceeding no further with the issue until things have cooled off."

NIMBYs and OSOMs

"While you mention us NIMBY's several times you neglect to draw attention to our cousins in government and industry, the OSOM's (out of sight out of mind). NIMBY's; by character, are to be found in rural or small town locales. They are more aware of their environment and its inter-related nature. OSOM's on the other hand congregate in larger urban areas. They tend to think of the world in terms of their city limits. If an element cannot be accommodated it is simply expelled into the hinterland. OSOM's also harbor a very low opinion of their "misinformed, emotional, and irrational", country cousins, the NIMBY's. Regardless of our differences, however, we are both of the same family, 'Procrastinaor'. With regard to waste management ours is a large and growing family ... A positive change in public opinion cannot be won by management, it must be earned through responsible leadership. ... By tabling a white paper reflecting progressive thinking backed by state of the art research the government could turn a rear guard action into an advance into the future. ... We remind you that the only alternative is more OSOM's, more NIMBY's, and a continued pointless effort to mollify opinion and bury the problem."

Industry's Perspective

"There are a few points I would like to raise. It has been my experience that some industries recognize that they have a waste disposal problem and would prefer to dispose of their waste appropriately. However, many times, the only option available to industry is to ship out-of-province, which they feel is economically prohibitive. These industries would welcome a regional solution to these problems. If given an alternative, I believe industry would adopt acceptable disposal techniques."

Dialogue on Environmental Issues

"While I agree with your statement that the N.S. Department of Environment needs to develop a more effective means and a receptive attitude toward public input in their activities, a corresponding change away from using confrontation as the first step in communicating with the Department, on the part of certain environmental groups, is necessary for any kind of dialogue to proceed."

The Media

"You seem to suggest that government staff have the discretion to decide whether or not to address the media - staff work within a public contact policy defined by their political masters, and that is as it ought to be. I think your comment ought to be that elected bodies, whether provincial or municipal, should clarify their policies on their staff dealing directly with the media. The responsibility for the policy lies not with staff."

Transportation

"One area I would like to see some control over is the movement of hazardous waste and materials through our county by truck and rail. However, I am aware there is a movement afoot now between the various fire departments and E.M.O. to have regulations laid down regarding this situation."

Health

"People are concerned about the health aspects of spills and disposal etc. and the opportunity for input from health officials, which is sometimes neglected, could assist in addressing those issues. ... When public meetings/consultation sessions take place, a health official should be present to talk about the health aspects of the hazardous waste problem. ... A second point I would raise concerns your Health and Safety Section. ... Rather than a feeling of dissatisfaction with the lack of consultation, I would think that there is greater opportunity for consultation. Health aspects (occupational and public) are not the only consideration, but they certainly form part of the overall picture of waste management."

Our reviewers were:

Liz Calder
Rick Clarke
John Coady
Ira Drysdale
Hugh Fairn
Brad Fox
Morris Haugg
Jens Jensen
Paul Kyle
Jim LeBlanc